

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Gordon F. Bremer	§	Attorney Docket No.: 110797-0019-501
U.S. Patent No. 8,023,580	§	Customer No.: 28120
Formerly Application No. 12/543,910	§	
Issue Date: September 20, 2011	§	Requesters: Samsung Electronics Co., Ltd.,
Filing Date: August 19, 2009	§	Samsung Electronics America, Inc.
Former Group Art Unit: 2611	§	
Former Examiner: Dac Ha	§	

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
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Alexandria, VA 22313-1450

**REQUEST FOR *EX PARTE* REEXAMINATION OF U.S. PATENT NO. 8,023,580  
PURSUANT TO 35 U.S.C. § 302, 37 C.F.R. § 1.510**

Pursuant to 35 U.S.C. § 302 and 37 C.F.R. § 1.510, Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (the “Requesters”) hereby request *ex parte* reexamination of claims 2 and 59 (the “Challenged Claims”) of U.S. Patent No. 8,023,580 (“the ‘580 patent”), which issued from U.S. Patent Application Serial No. 12/543,910, filed August 19, 2009 (“the ‘910 Application”). (A complete copy of the ‘580 patent is attached as Exhibit A, a copy of the ‘910 application as filed is attached as Exhibit B, and a copy of the prosecution history for the ‘580 patent (other than the prior art of record) is attached as Exhibit C (“the ‘580 Prosecution History”)). Pursuant to 37 C.F.R. § 1.510(b)(6), Requesters certify that the statutory estoppel

provisions of 35 U.S.C. §§ 315(e)(1) or 325(e)(1) do not prohibit Requesters from filing this Request.<sup>1</sup>

Requesters assert herein that substantial new questions of patentability exist as to claims 2 and 59 of the ‘580 patent based on a prior art reference, Snell, filed on March 17, 1997 and issued on November 9, 1999, that was not considered during original prosecution, along with various additional references: four references that were and two references that were not before the United States Patent and Trademark Office (“Patent Office” or “USPTO”) during the original prosecution or *inter partes* review of the ‘580 patent. As detailed below, claims 2 and 59 of the ‘580 patent are rendered obvious by the references cited herein by the Requesters.<sup>2</sup>

Because the challenged patent is involved in pending litigation, Requesters respectfully request that, consistent with 35 U.S.C. § 305 and MPEP § 2261, all proceedings associated with this reexamination be conducted not only with the “special dispatch” accorded all

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<sup>1</sup> Pursuant to 37 C.F.R. § 1.565, the Requesters provide notice that the Patent Owner Rembrandt Wireless Technologies, LP (“Rembrandt” or “Patent Owner”) has asserted the ‘580 patent in *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, C.A. No. 2:13-cv-00213-JRG (E.D. Tex.) (the “Rembrandt Litigation”). On February 13, 2015, a jury found that claims 2 and 59 of the ‘580 patent were infringed and, on the record then before it, not invalid. *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, C.A. No. 2:13-cv-00213-JRG, Dkt. 288 (E.D. Tex.). The issue of post-trial relief was severed and assigned a separate case number, styled as *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, C.A. No. 2:16-cv-00170-JRG, Dkt. 2 (E.D. Tex.). The defendants in the above litigation have appealed the decision to the U.S. Court of Appeals for the Federal Circuit in *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, No. 2016-1729 (Fed. Cir.). In addition, the ‘580 patent has been involved in multiple *inter partes* reviews (IPRs) (“the Rembrandt IPRs”). Two petitions for IPR were instituted and have resulted in final written decisions (*Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00518, Pap. 47 (Final Written Decision) (Sept. 17, 2015); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00519, Pap. 49 (Final Written Decision) (Sept. 17, 2015)). Four petitions for IPR were denied (*Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00514, Pap. 18 (Decision on Institution) (Sept. 9, 2014); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00515, Pap. 18 (Decision on Institution) (Sept. 9, 2014); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2015-00114, Pap. 14 (Decision on Institution) (Jan. 28, 2015); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2015-00118, Pap. 14 (Decision on Institution) (Jan. 28, 2015)).

<sup>2</sup> In the context of the present Request, the standard for claim interpretation during patent examination as provided in MPEP § 2111 (Claim Interpretation; Broadest Reasonable Interpretation) is applied.

reexaminations, but also with the “priority over all other cases” accorded reexaminations of patents involved in litigation. MPEP § 2261. In the Rembrandt Litigation, a jury imposed a verdict of \$15.7 million based in part on the jury’s verdict concerning infringement of challenged claims 2 and 59 of the ‘580 patent. As shown in this Request – based on combinations of prior art that were never previously considered by the Office – claims 2 and 59 should have never issued. In light of the Patent Owner’s demonstrated intent to assert these invalid claims, timely conduct of the requested reexamination is of particular importance to the public.<sup>3</sup>

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<sup>3</sup> Requesters are also seeking reexamination of U.S. Patent No. 8,457,228 (“the ‘228 patent”), which is a continuation of the ‘580 patent.

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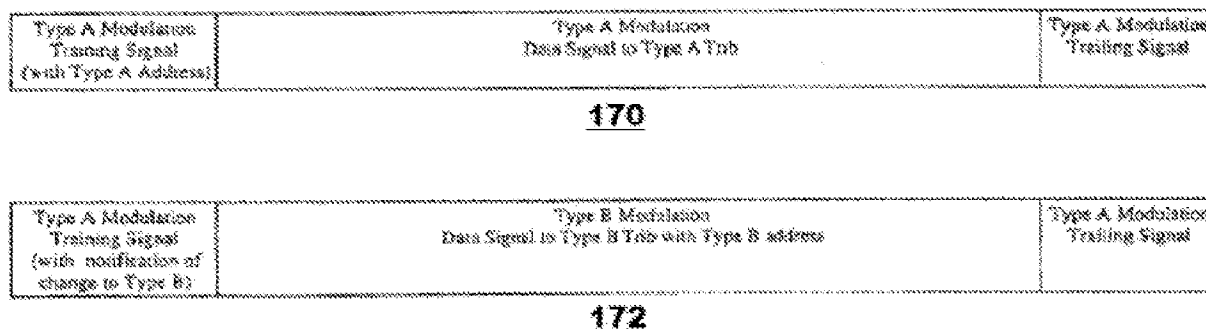
**TABLE OF EXHIBITS**

<b><u>Exhibit</u></b>	<b><u>Description</u></b>
<b>Exhibit A</b>	U.S. Patent No. 8,023,580 (“the ‘580 patent”)
<b>Exhibit B</b>	U.S. Application No. 12/543,910 (“the ‘910 Application”) (consecutive page numbers added for ease of citation)
<b>Exhibit C</b>	File History of U.S. Patent No. 8,023,580 (“the ‘580 Prosecution History”) (other than the prior art of record) (consecutive page numbers added for ease of citation)
<b>Exhibit D</b>	U.S. Patent No. 5,982,807 (“Snell”)
<b>Exhibit E</b>	<i>Andren, C. et al., Using the PRISM™ Chip Set for Low Data Rate Applications</i> , Harris Semiconductor Application Note No. AN9614, March 1996 (“Harris AN9614”)
<b>Exhibit F</b>	<i>HSP3824 Direct Sequence Spread Spectrum Baseband Processor</i> , Harris Semiconductor File No. 4064.4, Oct. 1996 (“Harris 4064.4”) (consecutive page numbers added for ease of citation)
<b>Exhibit G</b>	Declaration of Jon Mears; Exhibit A thereto (Upender <i>et al.</i> , “Communication Protocols for Embedded Systems,” <i>Embedded Systems Programming</i> , Vol. 7, Issue 11, November 1994. – (“Upender”))
<b>Exhibit H</b>	U.S. Patent No. 6,075,814 (“Yamano”)
<b>Exhibit I</b>	Kamerman, A., <i>Throughput Density Constraints for Wireless LANs Based on DSSS</i> , IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3 (“Kamerman”) (consecutive page numbers added for ease of citation)
<b>Exhibit J</b>	Office Action in File History of U.S. Application No. 09/205,205 (issued as U.S. Patent No. 6,614,838), mailed June 28, 2001 (consecutive page numbers added for ease of citation)
<b>Exhibit K</b>	Applicant Response in File History of U.S. Application No. 09/205,205 (issued as U.S. Patent No. 6,614,838), dated Oct. 1, 2001 (consecutive page numbers added for ease of citation)
<b>Exhibit L</b>	File History of U.S. Patent No. 5,982,807 (other than the prior art of record) (consecutive page numbers added for ease of citation)
<b>Exhibit M</b>	Terminal Disclaimer in File History of U.S. Patent No. 8,023,580, dated Dec. 4, 2014
<b>Exhibit N</b>	Terminal Disclaimer in File History of U.S. Patent No. 8,023,580, dated Dec. 15, 2014

<b><u>Exhibit</u></b>	<b><u>Description</u></b>
<b>Exhibit O</b>	<i>Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd. et al.</i> , No. 2:13-cv-00213, Excerpted pages from Plaintiff Rembrandt Wireless Technologies, LP's Disclosure of Asserted Claims and Infringement Contentions dated July 25, 2013, Exhibit C at 14, 48 (E.D. Tex.)

## I. BACKGROUND OF THE REQUEST

The '580 patent relates generally to “a data communications system in which a plurality of modulation methods are used to facilitate communication among a plurality of modem types.” '580 patent at 1:19-23. According to the '580 patent, messages – such as those shown in the '580 patent's Figure 8 – can be sent on the same network using different modulation methods (e.g., type A and type B) by providing an indication in the first sequence of the message of the modulation method used for the second sequence of the message.



**FIG. 8**

The supposed “invention” in each of the Challenged Claims was already well known and obvious to those of ordinary skill in the art at the time of the earliest claimed priority date for the '580 patent—December 5, 1997. Indeed, in IPR2014-000518, the Board correctly found that independent claims 1 and 58 (from which claims 2 and 59 depend) are invalid as obvious in view of the prior art. Specifically, the Board correctly found that U.S. Patent No. 5,706,428 (“Boer”) disclosed all of the limitations of claims 1 and 58, other than the use of a master/slave relationship. The Board also correctly found that the Applicant’s admitted prior art, as reflected in the '580 patent specification (“APA”), demonstrated that the use of a master/slave protocol was well-known in the art, and that an article by Upender *et al.* (“Upender,” a copy of which is

attached as Exhibit G) provided a motivation to use a master/slave protocol when implementing Boer's system.

As discussed herein, claims 2 and 59 are rendered obvious by the combinations of cited references presented in this Request, which demonstrate that all of the elements of claims 2 and 59 were well known in the art before the earliest claimed priority date of the '580 patent. The Snell reference cited here by Requesters discloses a transceiver capable of transmitting data packets with preamble, header, and data portions, where the preamble and header are transmitted using BPSK modulation, and the data portion is transmitted using either BPSK or QPSK modulation. Snell alternatively discloses that the preamble and header are transmitted using DBPSK modulation, and the data portion is transmitted using either DBPSK or DQPSK modulation. *See, e.g.*, Snell at Fig. 3, 6:35-36, 6:52-63. As the PTAB correctly found in IPR2014-00518, DBPSK and DQPSK are "different types of modulation methods" in the context of '580 independent claims 1 and 58, and thus also of dependent claims 2 and 59. IPR2014-00518, Pap. 47 at 19; '580 Prosecution History at 408. Snell discloses the use of sequences in the header portion that indicate which type of modulation is being used for transmitting the data portion. *See, e.g.*, Snell at 6:52-63. Snell also discloses (through its incorporation of Harris AN9614) the ability to use its teachings with a polled (master/slave) protocol. Harris AN9614 at 3. Alternatively, it would have been obvious to a person of ordinary skill in the art ("POSITA") to use a master/slave protocol when implementing Snell's system based on the same Admitted Prior Art and Upender disclosures that were relied on by the PTAB in IPR2014-00518.

In IPR2014-000518, the PTAB declined to institute review of dependent '580 claims 2 and 59 based on the Board's view that the cited prior art failed to disclose the additional limitation of those claims requiring transmission of a "third sequence . . . transmitted in the first

modulation method [that] indicates that communication from the master to the slave has reverted to the first modulation method.” Requesters cite herein the Kamerman reference, which demonstrates reversion to the first modulation method, required by dependent claims 2 and 59, was obvious and well-known in the art. Specifically, Kamerman discloses an automatic rate adaptation scheme for transmitting a first data packet where the data is modulated using a second modulation method, such as QPSK (corresponding to a higher data transfer rate), and next transmitting a second data packet where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (*i.e.*, to revert to the first modulation method). Kamerman at 6, 11-12. It would have been obvious to a POSITA to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell’s system for communicating data packets modulated according to different modulation methods to advantageously maximize the data transfer rate and adapt to changing channel conditions (as also taught by Kamerman).

Finally, it was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. It would have been obvious to a POSITA to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets to advantageously specify which receiver the data is intended for and to reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate.

Under any proper understanding of the scope of the Challenged Claims, and certainly under the broadest reasonable construction required here, claims 2 and 59 are obvious over Snell

in view of Yamano and Kamerman; Snell in view of Harris 4064.4, Harris AN9614, Yamano, and Kamerman; and Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman. Moreover, as detailed herein, if Patent Owner were to argue for a construction of the term “type” that is wholly unsupported by the intrinsic record, as it did in the cited Rembrandt Litigation and Rembrandt IPRs, these arguments should be rejected as the PTAB did in the Rembrandt IPRs. *E.g.*, IPR2014-00518, Pap. 47 at 7-12; ‘580 Prosecution History at 396-401. Requesters respectfully submit that reexamination of both Challenged Claims should be granted, and that the Challenged Claims should be found unpatentable and cancelled for the reasons set forth herein.

## **II. SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY**

Reexamination is respectfully requested for dependent claims 2 and 59 of the ‘580 patent under 35 U.S.C. § 302 and 37 C.F.R. § 1.510.

### **A. Listing of Prior Art Patents and Printed Publications**

Pursuant to 37 C.F.R. § 1.510(b)(3), reexamination of the Challenged Claims is requested in view of the references below and Applicant’s admitted prior art of a master/slave communication system depicted in Figures 1 and 2 and described in column 3, line 40 through column 4, line 50 of the ‘580 patent (“Admitted Prior Art”). The Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman references were not previously cited or considered in any rejection by the Examiner during prosecution or by the Board during *inter partes* review of the ‘580 patent and present new technological teachings that were not previously considered in connection with the ‘580 patent. Accordingly, the combinations presented in this request were never previously considered by the Office with respect to the ‘580 patent.

Exhibit D: U.S. Patent No. 5,982,807, filed on Mar. 17, 1997 and issued on Nov. 9, 1999, to Snell, J. (“Snell”).

- Exhibit E: Andren, C. *et al.*, *Using the PRISM™ Chip Set for Low Data Rate Applications*, Harris Semiconductor Application Note No. AN9614, March 1996 (“Harris AN9614”).
- Exhibit F: *HSP3824 Direct Sequence Spread Spectrum Baseband Processor*, Harris Semiconductor File No. 4064.4, Oct. 1996 (“Harris 4064.4”).
- Exhibit G: Declaration of Jon Mears; Exhibit A thereto (Upender *et al.*, “Communication Protocols for Embedded Systems,” *Embedded Systems Programming*, Vol. 7, Issue 11, November 1994. – (“Upender”)).
- Exhibit H: U.S. Patent No. 6,075,814, filed on May 9, 1997 and issued on Jun. 13, 2000, to Yamano, L., *et al.* (“Yamano”).
- Exhibit I: Kamerman, A., *Throughput Density Constraints for Wireless LANs Based on DSSS*, IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3 (“Kamerman”).

A Form SB-08 and copies of the cited references are submitted herewith.

**B. Statement Setting Forth Each Substantial New Question of Patentability**

This Request presents new issues of patentability that were not considered during prosecution or prior *inter partes* review of the ‘580 patent. As described in more detail in this section, the Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman references provide new technological teachings and were not cited by the Applicant or the Examiner or otherwise considered during prosecution of the ‘580 patent or during *inter partes* review of the ‘580 patent. Notably, Snell, which is included in every combination of references proposed herein by the Requesters, clearly discloses transmitting data packets where the preamble and header are always modulated using a first modulation method and indicate whether the data portion of the data packet is modulated using a first modulation method or a second modulation method, a limitation that is fundamental to each of the Challenged Claims. In addition, Harris 4064.4 (incorporated by Snell) discloses transmitting data packets where the preamble and header are always modulated using a first modulation method and indicate whether the data portion of the data packet is modulated using a first modulation method or a second modulation method. Harris

AN9614 (incorporated by Snell) discloses that the system described in Snell may operate according to a polled (master/slave) protocol. Yamano, also included in each proposed combination of references, clearly discloses including a destination address in the preamble portion of a data packet. And Kamerman, also included in each proposed combination of references, clearly discloses transmitting a first data packet where the data is modulated using a second modulation method, such as QPSK (corresponding to a higher data transfer rate), and next transmitting a second data packet where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (*i.e.*, to revert to the first modulation method), which is required by dependent claims 2 and 59 and is the only limitation of the Challenged Claims that the Board previously found was not disclosed by the prior art that was then before the Board.

Although the Board previously considered Applicant's admission that master/slave communication systems were known in the prior art to the '580 patent and Upender's disclosure of motivation to use a master/slave communication system, these teachings were never before considered in connection with the Snell, Harris 4064.4, Harris AN9614, Yamano, or Kamerman references. Thus, the questions of patentability raised in this Request were not raised during the prosecution of the application that led to the '580 patent or during *inter partes* review of the '580 patent. As described below, in combination these new references disclose that all the limitations of the Challenged Claims were well-known and obvious at the time the application for the '580 patent was filed.

Accordingly, the references raise the following substantial new questions of patentability that were not considered during the original prosecution or prior *inter partes* review of the '580 patent:



1. SNQ-1: A substantial new question of patentability as to claims 2 and 59 is raised by Snell in view of Yamano and Kamerman.
2. SNQ-2: A substantial new question of patentability as to claims 2 and 59 is raised by Snell in view of Harris 4064.4, Harris AN9614, Yamano, and Kamerman.
3. SNQ-3: A substantial new question of patentability as to claims 2 and 59 is raised by Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman.

In light of the new grounds raised, the combinations of the above references render the Challenged Claims invalid.

**C. Background and Prosecution of the ‘580 Patent**

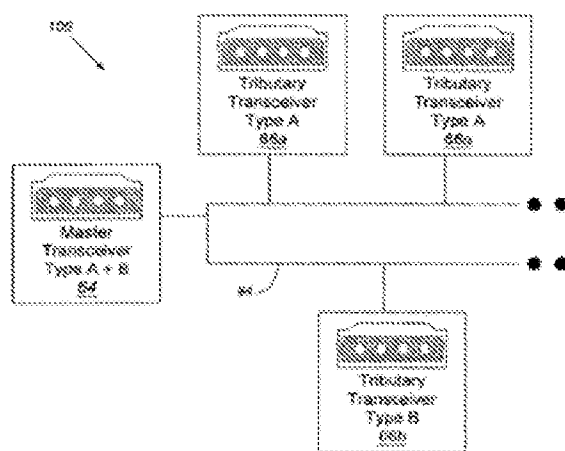
**1. The ‘580 Patent**

The ‘580 patent is directed to the “fields of data communications and modulator/demodulators (modems), and, more particularly, to a data communications system in which a plurality of modulation methods are used to facilitate communication among a plurality of modem types.” ‘580 patent at 1:19-23. The ‘580 patent describes a problem with communications systems where “communication between modems is generally unsuccessful unless a common modulation method is used.” *Id.* at 1:45-47. In the context of a “multipoint architecture” for a network, which utilizes a “master” modem and at least two “tributary” (or “trib”) modems, *id.* at 1:56-58, the ‘580 patent notes that where “one or more of the trib modems are not compatible with the modulation method used by the master, those tribs will be unable to receive communications from the master,” *id.* at 1:58-61.

Because of these issues, the ‘580 patent asserts that “communication systems comprised of both high performance and low or moderate performance applications can be very cost inefficient to construct.” *Id.* at 1:66-2:1. The ‘580 patent asserts that the solution used at the

time to overcome *incompatible* modulation methods was the use of high performance modems for all users, which resulted in higher costs. *Id.* at 2:8-16. Thus, the ‘580 patent asserts that “*what is sought, and what is not believed to be provided by the prior art, is a system and method of communication in which multiple modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been incompatible.*” *Id.* at 2:17-20 (emphasis added).

The purported invention of the ‘580 patent is a system like that shown in Figure 3, in which a master transceiver 64 is capable of transmitting and receiving data using different modulation methods (*e.g.*, what the patent identifies as “type A” modulation and “type B” modulation). *Id.* at 5:23-33. Master transceiver 64 can communicate with tribs, *e.g.*, trib 66, each of which communicates using either a type A or type B modulation method (shown as “type X” in Figure 3), but not both. *Id.* at 5:34-46. Figure 4 shows an exemplary network in which master transceiver 64 can communicate using either a type A or type B modulation method. *Id.* at 5:47-51. Trib 66a communicates using a type A modulation method, while trib 66b communicates using a type B modulation method. *Id.*



**FIG. 4**

‘580 patent, Figure 4.

According to the ‘580 patent, the master transceiver can communicate with both type A and type B tribbs by providing in the first sequence (*i.e.*, header) of a message an indication of the modulation method that is used for the second sequence (*i.e.*, data portion) of the message. *Id.* at 5:51-6:12. For example, a master can communicate with a type A tribb by transmitting a training sequence using type A modulation followed by a second sequence also in type A modulation. *Id.* at 6:49-54. To send a message to a type B tribb (that uses type B modulation), the master transmits a training sequence, again using type A modulation, that provides notification of an impending change to type B modulation. *Id.* at 6:3-6. The second sequence is then transmitted using type B modulation. *Id.* at 6:8-15.

## **2. Prosecution History of the ‘580 Patent**

The ‘580 patent issued from U.S. Application No. 12/543,910. The ‘910 Application was a continuation of U.S. Application No. 11/774,803, which issued as U.S. Patent No. 7,675,965. The ‘803 Application was a continuation of U.S. Application No. 10/412,878, which issued as U.S. Patent No. 7,248,626. The ‘878 Application was a continuation-in-part of U.S. Application No. 09/205,205, which became U.S. Patent 6,614,838. The ‘580, ‘965, ‘626, and ‘838 patents all claim the benefit of the filing date of U.S. Provisional App. No. 60/067,562, filed Dec. 5, 1997.

The ‘910 Application that eventually matured into the ‘580 patent was filed on August 19, 2008 with 100 claims. ‘910 Application at 32-41. In an September 1, 2010 Office Action, a number of claims were objected to due to an antecedent basis issue but were otherwise deemed allowable, while other claims were rejected under 35 U.S.C. §§ 102(b) & 103(a). ‘580 Prosecution History at 72-77. Application claim 1, which would issue as claim 1, was one such claim that was deemed allowable but for the antecedent basis issue. *Id.* at 72, 77. In a March 1,

2011 response (“3/1/2011 Reply”), Patent Owner amended many pending claims, including application claims 1 and 2 (which would issue as claims 1 and 2, respectively), cancelled other claims, and added forty-eight new claims. *Id.* at 127-38. Included within the added claims were claims 123 and 124, which would issue as claims 58 and 59, respectively. *Id.* at 135-36. On March 10, 2011, Patent Owner refiled the claims in response to a Notice Of Non-Compliant Amendment. *Id.* at 167-81. In its 3/1/2011 Reply, Patent Owner amended claim 1, even though it had been allowed. Patent Owner offered the following explanation:

Applicant thanks Examiner Ha for the indication that claims 1-18, and 37-57 are allowed (office action, p. 7). Applicant has further amended claims 1-2, 9-15, 18, 37-38, and 45-46 with additional recitations to more precisely claim the subject-matter. For example, the language of independent claim 1 has been clarified to refer to two types of modulation methods, i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods. Support for the clarifying amendments can be found throughout the specification, for example [0024], [0025] and [0031] - [0036].

*Id.* at 140. Patent Owner later relied on this post-allowance statement—made 14 years after the provisional application to which the ‘228 patent claims priority was filed—to assert during litigation that the meaning of “different types” of modulation methods referred to “different families” of modulation methods that did not have any overlapping characteristics. The court in the Rembrandt Litigation construed this claim term. *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd.*, No. 2:13-cv-00213-JRG-RSP, Dkt. 114, Claim Construction Order (E.D. Tex. July 10, 2014). After the court issued its claim construction order, the PTAB also construed this term, correctly rejecting Rembrandt’s argument, explaining that “[i]t is inappropriate to limit a broad definition of a claim term based on prosecution history that is itself ambiguous.” IPR2014-00518, Pap. 47 at 9 (quoting *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1382 (Fed. Cir. 2002)); ‘580 Prosecution History at 398.

On May 11, 2011, Patent Owner filed a paper making further amendments to pending claims 1 and 95. *Id.* at 187-200. The application was allowed on July 22, 2011, although no Statement of Reasons for Allowance was provided. *Id.* at 249-74. On July 26, 2011, Patent Owner filed an Amendment After Allowance further amending claims that, after entry, issued as claims 40, 49, and 54. *Id.* at 275-90. The '580 patent issued on September 20, 2011. *Id.* at 306.

In December 2014, Rembrandt Wireless, LP, the assignee of record, disclaimed claims 24, 26-28, 31-37, 39-40, 42-46, and 48. Exs. M and N; '580 Prosecution History at 363, 366.

### **3. *Inter Partes* Review of the '580 Patent (IPR2014-00518)**

On March 20, 2014, Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC filed a petition for *inter partes* review of claims 1-2, 4-5, 10, 13, 19-22, 49, 52-54, 57-59, 61-62, 66, 70, and 76-79 based on U.S. Patent No. 5,706,428 (“Boer”) in view of Applicant’s admitted prior art of a master/slave communication system, as reflected in the '580 patent specification. IPR2014-00518, Pap. 1 (Mar. 20, 2014). On September 23, 2014, the PTAB instituted *inter partes* review of claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79 but declined to institute review of claims 2, 19, 49, 52, 53, and 59. IPR2014-00518, Pap. 16 at 2 (Sept. 23, 2014); '580 Prosecution History at 319.<sup>4</sup> The PTAB did not institute review of claims 2 and 59 (Boer in view of Applicant’s admitted prior art as reflected in the '580 patent specification), finding that the petitioner did not show that the prior art taught the dependent limitation of these claims, which requires “‘indicat[ing]’ that communication from the master to the slave has reverted to

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<sup>4</sup> Some documents from the Rembrandt IPRs appear in the file wrapper of the '580 patent, including institution decisions and final written decisions. IPR documents appearing in the file wrapper (attached here as Exhibit C, “'580 Prosecution History”) are cited herein both to their original source documents and to their locations within Exhibit C.

the first modulation method.” IPR2014-00518, Pap. 16 at 14-15; ‘580 Prosecution History at 331-32.

On September 17, 2015, in a Final Written Decision, the PTAB correctly found all reviewed claims (claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79), including the independent claims from which the Challenged Claims depend, were unpatentable over Boer in view of Applicant’s admitted prior art of a master/slave communication system, as reflected in the ‘580 patent specification. IPR2014-00518, Pap. 47 at 21 (Sept. 17, 2015); ‘580 Prosecution History at 391.

In the Final Written Decision, the PTAB correctly construed the claim terms using their broadest reasonable construction in light of the ‘580 patent specification. IPR2014-00518, Pap. 47 at 5; ‘580 Prosecution History at 394. The PTAB correctly construed the claim term “modulation” as having “its customary and ordinary meaning as the process by which some characteristic of a carrier is varied in accordance with a modulating wave.” IPR2014-00518, Pap. 47 at 7; ‘580 Prosecution History at 396.

The PTAB also construed different “type[s]” of modulation methods as “modulation methods that are incompatible with one another,” specifically finding that the “DQPSK...modulation method[] [is] incompatible with DBPSK modulation” and thus DQPSK modulation is “a different type” of modulation than DBPSK. IPR2015-00518, Pap. 47 at 12, 18-19; ‘580 Prosecution History at 401, 407-408. The specification also supports the PTAB’s interpretation of different types of modulation methods as those which are incompatible. The specification addresses the asserted problem of lack of compatibility between modems, stating “what is sought, and what is not believed to be provided by the prior art, is a system and method of communication in which multiple modulation methods are used to facilitate communication

among a plurality of modems in a network, which have heretofore been *incompatible*.” ‘580 patent at 2:16-20 (emphasis added); *see also* ‘580 patent at 1:58-65, 1:27-30, 1:47-52, 2:8-10, 2:12-16, 2:55-57. The provisional application to which the ‘580 patent claims priority, also explains that if a master uses a modulation method that is not compatible with the modulation method used by a trib, the master cannot communicate with that trib. U.S. Provisional Application No. 60/067,562 at 2 (“...the master communicates to all tribs with a single modulation method. If one or more of the tribs is not compatible, the master cannot communicate with that trib.”). In construing the meaning of different “type[s]” of modulation methods, the PTAB correctly rejected Patent Owner’s proffered construction after thorough consideration of the prosecution history of the ‘580 patent, including the Response dated March 1, 2011. IPR2015-00518, Pap. 47 at 7-12; IPR2015-00518, Pap. 47 at 12, 18-19.

The PTAB further found that the ‘580 patent disclosed admitted prior art of master/slave communication systems, agreeing that “the ‘580 patent’s [disclosure of] multipoint communication systems (or master/slave systems), depicted in Figures 1 and 2 and described in column 3, line 40 through column 4, line 50, contains material that may be used as prior art against the patent under 35 U.S.C. § 103(a).” IPR2014-00518, Pap. 47 at 13; ‘580 Prosecution History at 402. The PTAB further found that Upender provided a motivation to combine the master/slave relationship of the admitted prior art with Boer. IPR2014-00518, Pap. 47 at 16-18; ‘580 Prosecution History at 405-407. The PTAB noted that Upender states that polling is one of the more popular protocols for embedded systems “because of its simplicity and determinacy” and “teaches that master/slave protocols were widely used and a good choice for simple systems.” IPR2014-00518, Pap. 47 at 15-16; ‘580 Prosecution History at 404-405. The PTAB agreed that Upender provided appropriate motivation to use the simpler master/slave protocol in conjunction

with Boer. IPR2014-00518, Pap. 47 at 17 (“one of ordinary skill in the art would have found it obvious to use a different prior art communication protocol (*e.g.*, a simpler protocol) when using multiple data rates as described by Boer.”); ‘580 Prosecution History at 406.

Rembrandt did not appeal the PTAB’s finding of unpatentability.

#### **4. *Inter Partes* Review of the ‘580 Patent (IPR2014-00519)**

On March 20, 2014, Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC filed a petition for *inter partes* review of claims 23, 25, 29-30, 32, 34, 38, 40-41, 43-44 and 47 of the ‘580 patent. IPR2014-00519, Pap. 1 (Mar. 20, 2014). On September 23, 2014, the PTAB instituted *inter partes* review of claims 32, 34, 38, 40, 43, 44, and 47 of the ‘580 patent but declined to institute review of claims 23, 25, 29, 30, and 41. IPR2014-00519, Pap. 16 at 15 (Sept. 23, 2014). Rembrandt thereafter disclaimed claims 32, 34, 40, 43, and 44. IPR2014-00519, Pap. 49 at 2 (Sept. 17, 2015). On September 17, 2015, the PTAB correctly found the remaining claims 38 and 47 unpatentable over Boer in view of Applicant’s admitted prior art of a master/slave communication system, as reflected in the ‘580 patent specification. *Id.*

#### **5. *Inter Partes* Reviews of the ‘580 Patent (IPR2014-00514 and IPR2014-00515)**

On March 20, 2014, Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC filed a petition for *inter partes* review of claims 1, 2, 4, 5, 10, 13, 19–22, 49, 52–54, 57–59, 61, 62, 66, 70, and 76–79 of the ‘580 patent (IPR2014-00514, Pap. 1 (Mar. 20, 2014)) and a petition for *inter partes* review of claims 23, 25, 29-30, 32, 34, 38, 40-41, 43-44 and 47 of the ‘580 patent. IPR2014-00515, Pap. 1 (Mar. 20, 2014). On September 9, 2014, the PTAB declined to institute *inter partes* review of the ‘580 patent based on either petition, finding that the petitioner did not



make a sufficient showing that the reference relied upon in the petitions (IEEE P802.11, Draft Standard for Wireless LAN, Medium Access Control (MAC) and Physical Layer (PHY) Specification, P802.11D4.0, May 20, 1996) was publicly available before the claimed priority date. IPR2014-00514, Pap. 18 at 9-10 (Sept. 9, 2014); IPR2014-00515, Pap. 18 at 10 (Sept. 9, 2014).

**6. *Inter Partes* Reviews of the ‘580 Patent (IPR2015-00114 and IPR2015-00118)**

On October 21, 2014, Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC filed a petition for *inter partes* review of claims 2, 19, 49, 52, 53, and 59 of the ‘580 patent (IPR2015-00114, Pap. 1 (Oct. 21, 2014)) and a petition for *inter partes* review of claims 23, 25, 29, 30, and 41 of the ‘580 patent (IPR2015-00118, Pap. 1 (Oct. 21, 2014)). The asserted ground of unpatentability was Boer in view of Applicant’s admitted prior art of a master/slave communication system as reflected in the ‘580 patent specification—a combination of references that is different from the combinations submitted in this Request giving rise to substantial new questions of patentability. On January 28, 2015, the PTAB declined to institute *inter partes* review of the ‘580 patent based on either petition under 35 U.S.C. § 325(d), finding that “the same or substantially the same prior art or arguments” had been presented in IPR2014-00518 and IPR2014-00519 and that, barring joinder, the petitions were time-barred. IPR2015-00114, Pap. 14 at 7-8 (Jan. 28, 2015); IPR2015-00118, Pap. 14 at 7 (Jan. 28, 2015). In the decisions not to institute, the PTAB specifically declined to reach the merits of the grounds presented. IPR2015-00114, Pap. 14 at 6 (Jan. 28, 2015); IPR2015-00118, Pap. 14 at 5 (Jan. 28, 2015).

**D. Secondary Considerations**

This Request demonstrates that claims 2 and 59 of the '580 patent are obvious under 35 U.S.C. § 103 based on the references presented here. As discussed below, these clear teachings in the prior art cannot be overcome by any supposed "secondary considerations."

The "ultimate determination of whether an invention is obvious is a legal question based on the totality of the evidence." *See Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1131 (Fed. Cir. 2000) (citing *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1483 (Fed. Cir. 1997)). As set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966), those fact determinations involve (1) the scope and content of the prior art, (2) the differences between the prior art and the claimed invention, (3) the level of ordinary skill in the pertinent art, and (4) additional evidence, which may serve as indicia of non-obviousness. This "additional evidence" with respect to obviousness may include "secondary considerations [such] as commercial success, long felt but unsolved needs, [and] failure of others." *Graham*, 383 U.S. at 17. **However, a lack of invention cannot be outweighed by secondary factors.** *Dow Chem. Co. v. Halliburton Oil Well Cementing Co.*, 324 U.S. 320 (1945). *See also Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 153 (1950) ("[C]ommercial success without invention will not make patentability."); *Brown & Williamson*, 229 F.3d at 1131 ("indicators of nonobviousness cannot overcome the strong evidence of obviousness") (citing *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 769 (Fed. Cir. 1988) ("finding obviousness despite strong evidence of commercial success"))).

Any supposed evidence of commercial success is unavailing without a concrete correlation between the merits of the invention and the alleged success. *Richardson-Vicks Inc.*, 122 F.3d at 1483 ("evidence of commercial success proffered by plaintiff is limited to sales data, and does not include evidence of market share, of growth in market share, of replacing earlier

units sold by others or of dollar amounts, and no evidence of a nexus between the sales and the merits of the invention”) (internal quotation omitted). In order to show the required nexus to the claimed invention for an argument of commercial success, the patent owner would need to show not only the sale of a covered product, but also that customers are choosing the product *because of* features that are purportedly within the exclusive boundaries of the ‘580 patent’s claims. In other words, such sales could be pertinent to a “commercial success” argument for obviousness purposes *only* if the patent owner could prove it was these features, and not others, that were driving demand.

The patent owner cannot demonstrate the required nexus. As detailed in this Request, each of the limitations of claims 2 and 59, properly construed for reexamination purposes, was actually known and present in the art long before the ‘580 patent’s earliest possible priority date, undercutting any suggestion that any limitation played the required role in generating any supposed “success.”

The Applicants also clearly did *not* satisfy any long-felt need, nor was there a failure of others to satisfy any long-felt need. To the contrary, as reflected in the prior art submitted herewith, this is a long-standing art with disclosures addressing, well before the ‘580 patent’s earliest possible priority date, the same claimed features in claims 2 and 59. The clear teachings of prior art preceding the ‘580 patent’s earliest possible priority date belie any claim of a long-felt need or failure by others.

Finally, the Patent Owner’s only apparent license (as argued during litigation) resulted from a settlement of litigation. *Rembrandt Wireless Techs., LP v. Samsung Electronics Co.*, Case No. 16-1729, D.I. 34 (Brief for Plaintiff-Appellee Rembrandt Wireless Technologies, LP) at 24, filed Jul. 21, 2016 (Fed. Cir.). Thus, there is nothing to show that the license was

attributable to the merits of the claimed invention rather than other considerations, such as a desire to avoid litigation.

The '580 patent claims are based on an idea that was well-known when the Applicants filed for a patent. They are rendered obvious by the prior art, and the overwhelming invalidity of the claims under 35 U.S.C. § 103 cannot be rebutted with secondary considerations.

### **III. DETAILED EXPLANATION OF THE PERTINENCE AND MANNER OF APPLYING THE PRIOR ART REFERENCES TO EVERY CLAIM FOR WHICH REEXAMINATION IS REQUESTED<sup>5</sup>**

As required under 37 C.F.R. § 1.510(b)(2), a detailed explanation of the pertinence and manner of applying the prior art references to the claims is provided here with Requesters' proposed rejections.

As noted above, for purposes of this request, the Requesters construe claim language according to MPEP § 2111, such that claim terms are given their broadest reasonable interpretation. *See In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1364. When the claims are construed in this manner, or even in a narrower manner, all the claims are unpatentable in view of the prior art references presented herein. In construing the claim language in this manner or as otherwise set forth explicitly or implicitly herein, the Requesters expressly reserve the right to argue a different claim construction in litigation as appropriate to such proceeding.

#### **A. The PTAB's Constructions of the Terms "Modulation" and Different "Type[s]" of Modulation Methods**

As an initial matter, Requesters note that the PTAB has already construed the terms "modulation" and different "type[s]" of modulation methods, applying the broadest reasonable interpretation, in an *inter partes* review of claims 1 and 58, independent claims from which claims 2 and 59 depend, respectively. IPR2014-00518, Pap. 47 at 5-12; '580 Prosecution

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<sup>5</sup> All emphases and annotations are added unless otherwise noted.

History at 394-401. The PTAB has also construed these same terms in three *inter partes* reviews of U.S. Patent No. 8,457,228, a continuation of the '580 patent. *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00892, Pap. 46 at 6-13 (Final Written Decision) (Sept. 24, 2015); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00893, Pap. 44 at 6-13 (Final Written Decision) (Sept. 24, 2015); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2014-00895, Pap. 44 at 6-13 (Final Written Decision) (Sept. 24, 2015).

**1. The PTAB's Construction of "Modulation"**

In all four IPR decisions, the PTAB properly construed "'modulation' in accordance with its customary and ordinary meaning as the process by which some characteristic of a carrier is varied in accordance with a modulating wave." IPR2014-00518, Pap. 47 at 7; '580 Prosecution History at 396. *See also* IPR2014-00892, Pap. 46 at 7; IPR2014-00893, Pap. 44 at 7; IPR2014-00895, Pap. 44 at 7.

**2. The PTAB's Construction of "Different 'Type[s]' of Modulation Methods"**

Also in all four IPR decisions, the PTAB properly construed "different 'types' of modulation methods as "modulation methods that are incompatible with one another," IPR2014-00518, Pap. 47 at 12; '580 Prosecution History at 401, and held that "DQPSK and PPM/DQPSK modulation methods are incompatible with DBPSK modulation," IPR2014-00518, Pap. 47 at 18; '580 Prosecution History at 407. *See also* IPR2014-00892, Pap. 46 at 13, 19; IPR2014-00893, Pap. 44 at 13, 19; IPR2014-00895, Pap. 44 at 13, 18-19.

The specification supports the PTAB's interpretation of different types of modulation methods as those which are incompatible. The specification addresses the asserted problem of lack of compatibility between modems, stating "what is sought, and what is not believed to be provided by the prior art, is a system and method of communication in which multiple

modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been *incompatible*.” ‘580 patent at 2:16-20 (emphasis added).

The specification further describes the asserted problem as follows:

If one or more of the trib modems are not compatible with the modulation method used by the master, those trib(s) will be unable to receive communications from the master. Moreover, repeated attempts by the master to communicate with the incompatible trib(s) will disturb communications with compatible trib(s) due to time wasted in making the futile communication attempts.

‘580 patent at 1:58-65.

Indeed, the specification continues to focus on compatibility, or the lack thereof, as the issue which the purported invention addresses. *See also* ‘580 patent at 1:27-30, 1:47-52, 2:8-10, 2:12-16. The summary section concludes by stating: “[a]nother advantage of the present invention is that a master transceiver can communicate seamlessly with tributary transceivers or modems using incompatible modulation methods.” ‘580 patent at 2:55-57.

Contrary to the plain language of the specification, Patent Owner argued in the Rembrandt IPRs that different “types” of modulation methods should be interpreted to mean “different ‘families’ of modulation techniques,” IPR2014-00518, Pap. 47 at 7; ‘580 Prosecution History at 396, and that different “families” of modulation methods should be further understood to mean modulation methods that do not vary overlapping characteristics, IPR2014-00518, Pap. 47 at 11; ‘580 Prosecution History at 400. Patent Owner relied solely on a single remark made in the prosecution history after allowance. In an office action reply dated March 1, 2011 (3/1/2011 Reply), Patent Owner amended claim 1 to introduce the term “type,” even though claim 1 had been allowed,<sup>6</sup> stating:

Applicant thanks Examiner Ha for the indication that claims 1-18, and 37-57 are allowed (office action, p. 7). Applicant has further amended claims 1-2, 9-15, 18, 37-38, and 45-46 with additional recitations to more precisely claim the subject-

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<sup>6</sup> Claim 59 (application claim 124) was added in the 3/1/2011 Reply after claim 1 was allowed.

matter. For example, the language of independent claim 1 has been clarified to refer to *two types of modulation methods, i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods*. Support for the clarifying amendments can be found throughout the specification, for example [0024], [0025] and [0031] - [0036].

'580 Prosecution History at 140 (emphasis added). Based on the foregoing statement during prosecution, Patent Owner argued to the PTAB that “different families” of modulation methods cannot be based on varying any overlapping characteristics. The PTAB correctly rejected Patent Owner’s argument, stating:

Thus, according to counsel for Patent Owner, two modulation methods that are different in one characteristic but the same in another, e.g., one varying phase and amplitude and the other varying frequency and amplitude, would be regarded as belonging in the same family. Such an understanding of the classification or categorization of “family” in case of partial overlap was not a part of any representation during prosecution history, but presented for the first time by counsel for Patent Owner during oral argument. It reflects ambiguity in the construction proposed by Patent Owner.

IPR2014-00518, Pap. 47 at 11; '580 Prosecution History at 400.

The PTAB further found that:

the claim amendments with respect to two “types” of modulation methods were not made in response to a rejection, as the relevant claims had been allowed. Nor do the above remarks explain what a “family” might be, or why FSK is considered to be a member of one “family” and QAM a member of another “family.” . . . *Patent Owner’s purported “definition” is anything but clear or precise.*

IPR2014-00518, Pap. 47 at 8 (citation omitted); '580 Prosecution History at 397.

Ultimately, the PTAB concluded that “[t]he prosecution history is, at best, ambiguous. ‘It is inappropriate to limit a broad definition of a claim term based on prosecution history that is itself ambiguous.’” IPR2014-00518, Pap. 47 at 9 (quoting *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1382 (Fed. Cir. 2002)); '580 Prosecution History at 398.

After rejecting Patent Owner’s unsupported and ambiguous construction, the PTAB correctly construed different “types” of modulation methods under the broadest reasonable

interpretation in light of the specification to mean modulation methods that are incompatible.

The PTAB expressly found that:

In view of the foregoing, we do not interpret a “type” of modulation method as referring to some vague or undefined “family” of modulation methods. We interpret different “types” of modulation methods as modulation methods that are incompatible with one another. Thus, contrary to Patent Owner’s construction, two modulation methods that are based on varying the same one of the frequency, amplitude, or phase of the carrier wave may be different “types” of modulation methods.

IPR2014-00518, Pap. 47 at 18; ‘580 Prosecution History at 407.

Applying this construction to the Boer reference before it, the PTAB correctly found “that DQPSK and PPM/DQPSK modulation methods are incompatible with DBPSK modulation.”

IPR2014-00518, Pap. 47 at 18; ‘580 Prosecution History at 407. The PTAB rejected Patent Owner’s argument that Boer’s disclosure of the same mobile station transmitting and receiving using DBPSK and DQPSK meant that the two methods are compatible:

whether one “type” of modulation is incompatible with another “type” concerns the method of modulation, not necessarily the modem for carrying out that method. That is, a modem might be designed (as in Boer) to transmit and receive using, separately, two incompatible modulation methods, but that does not mean the two modulation methods are compatible with each other.

IPR2014-00518, Pap. 47 at 19; ‘580 Prosecution History at 408.

Accordingly, the PTAB correctly found that DQPSK modulation and DBPSK modulation are different “types” of modulation, stating:

Patent Owner argues that DBPSK and DQPSK are not different “types” of modulation methods because the methods are within the same “family,” because both vary the same fundamental characteristic of a carrier wave – its phase. We do not find Patent Owner’s argument to be persuasive because we are not convinced that the broadest reasonable interpretation of “types” of modulation is so limited.

IPR2014-00518, Pap. 47 at 19 (citations omitted); ‘580 Prosecution History at 408. *See also*

IPR2014-00892, Pap. 46 at 19-20; IPR2014-00893, Pap. 44 at 19; IPR2014-00895, Pap. 46 at 19.



Should Patent Owner attempt here to argue that DBPSK and DQPSK are not different types of modulation methods, as it appears to have done in the cited Rembrandt Litigation and Rembrandt IPRs, this interpretation of the term “‘types’ of modulation methods” would not only be wholly unsupported by the claims and the specification of the ‘580 patent, but it would also directly conflict with the PTAB’s interpretation of claims 1 and 58 (from which claims 2 and 59 depend), which was never appealed by Patent Owner.

**B. Overview of Prior Art**

**1. Overview of Snell**

Snell is prior art under at least § 102(e) because it is a U.S. Patent filed by another in the United States on March 17, 1997, which is prior to December 5, 1997, the earliest claimed priority date of the ‘580 patent. Snell has not been previously cited to or considered by the Patent Office in connection with the ‘580 patent.

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at 1:34-46; *see id.* at 1:47-50, 4:42-47, 5:18-21. Snell’s transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a “first modulation method” (*e.g.*, BPSK) and a “second modulation method” (*e.g.*, QPSK) that is “of a different type than the first modulation method.”<sup>7</sup> *Id.* at 2:61-63 (“The modulator may also preferably include header

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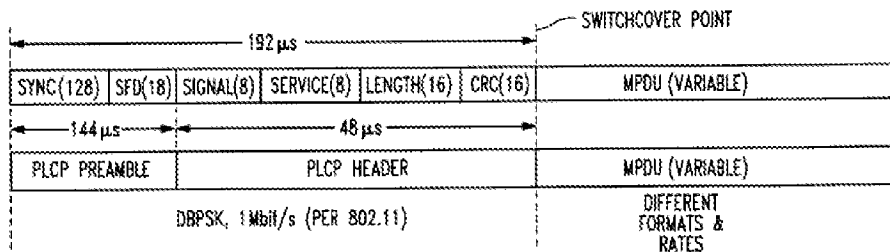
<sup>7</sup> As explained in §III.A.2, *supra*, in IPR2014-00518, the Board construed different “type[s]” of modulation methods as “modulation methods that are incompatible with one another,” specifically finding that the “DQPSK...modulation method[] [is] incompatible with DBPSK modulation” and thus DQPSK modulation is “a different type” of modulation than DBPSK. IPR2015-00518, Pap. 47 at 12, 18-19; ‘580 Prosecution History at 401, 407-408. Accordingly, Snell, which provides examples of switching between BPSK and QPSK modulation, and alternatively switching between DBPSK and DQPSK modulation, discloses the claimed feature of changing between different modulation types, even if Snell’s “first modulation method” and “second modulation method” each use phase shift keying. In addition, Snell further discloses a SIGNAL field in the header to indicate the modulation method used to modulate the MPDU data,

modulator means for modulating *data packets*.”), 1:55-57 (“The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, *packet communications* at the 2.4 to 2.5 GHz ISM radio band.”), 2:27-30 (“It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and *which may switch on-the-fly between different data rates and/or formats*.”), 7:10-14 (“The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and *while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly*.”), 1:58-61 (“In particular, the HSP3824 baseband processor manufactured by Harris Corporation employs quadrature or bi-phase phase shift keying (QPSK or BPSK) modulation schemes.”), 2:15-17 (“Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, *on-the-fly*.”). *See id.* at Abstract, 1:55-61, 2:56-59, Fig. 2, Fig. 3, Fig. 5.

Snell discloses that each data packet transmission comprises a “group of transmission sequences” structured with a “first portion” (*e.g.*, a PLCP preamble and PLCP header) and a “payload portion” (*e.g.*, MPDU data). *Id.* at 6:35-36, 6:64-66, 7:5-14, Fig. 3. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. *Id.* at Fig. 3, 6:48-7:14. The MPDU data is the data to be transmitted to the receiving transceiver. *Id.* at 7:5-6 (“*MPDU* is serially provided by Interface 80 and *is the variable data* scrambled for normal operation.”); *see also id.* at 7:6-14, Fig. 3.

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thereby disclosing an indication of an impending change from the first modulation method to the second modulation method or vice-versa.



**FIG. 3**

*Id.* at Fig. 3.

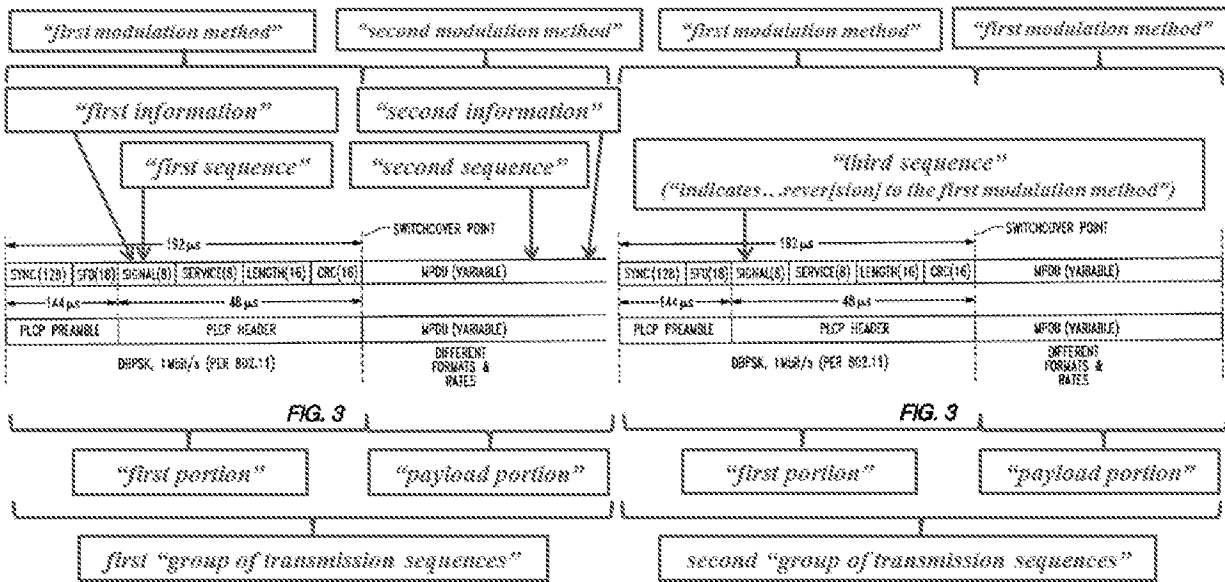
Snell teaches that the PLCP preamble and PLCP header are always modulated using the “first modulation method” (e.g., BPSK). Snell at 6:35-36 (“The header may always be BPSK”), Fig. 3. Snell further discloses that “first information in the first portion” (e.g., the SIGNAL field in the PLCP header) “indicates” which of the “first modulation method” (e.g., BPSK) and “second modulation method” (e.g., QPSK) is used for modulating “second information” in the “payload portion” (e.g., MPDU data).

For example, Snell discloses “[n]ow relating to the *PLCP header* 91, *the SIGNAL* is:

0Ah	1 Mbit/s BPSK,
14h	2 Mbit/s QPSK,
37h	5.5 Mbit/s BPSK, and
6Eh	11 Mbit/s QPSK.

Snell at 6:52-59. Thus, Snell teaches that the SIGNAL field in the PLCP header includes the symbol “0Ah” to indicate when the MPDU data is modulated using the “first modulation method” (e.g., BPSK at 1 Mbit/s). *Id.* at 6:52-59, 7:1-2, 7:5-14, Fig. 3. Snell also teaches that the SIGNAL field in the PLCP header includes the symbol “14h” to indicate when the MPDU data is modulated using the “second modulation method” (e.g., QPSK at 2 Mbit/s). *Id.* Snell thus teaches that “[t]he variable data may be modulated and demodulated in different formats than the

header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” *Id.* at 7:10-14; *see also, e.g., id.* at Fig. 3, 2:27-30.



*Id.* at Fig. 3 (annotated).

Snell teaches communicating multiple data packets with the ability to “switch on-the-fly between different data rates and/or formats.” *Id.* at 2:29-30. Based on this disclosure, a person of ordinary skill in the art would have understood that Snell teaches that a series of packets may be sent that switch from using a second modulation method to using a first modulation method for the payload portion of the data packet, as shown in the annotated Figure 3 above. For example, Snell’s transceiver transmits a first group of transmission sequences comprising a “first sequence” (e.g., PLCP preamble and PLCP header) that is “modulated according to the first modulation method” (e.g., BPSK) where the “first sequence” (e.g., “SIGNAL” field in PLCP header) “indicates” (e.g., using “14h”) the modulation type (e.g., QPSK) used for modulating the “second sequence” (e.g., MPDU data). For the first packet, the “SIGNAL” field in the PLCP header uses a code (e.g., “14h”) that “indicates” when the MPDU data is modulated “according

to the second modulation method” (*e.g.*, QPSK). The “second modulation method” (*e.g.*, QPSK) “is of a different type than the first modulation method” (*e.g.*, BPSK).

Snell’s transceiver then transmits a second packet comprising a “third sequence” (*e.g.*, PLCP preamble and PLCP header) “transmitted in the first modulation method” (*e.g.*, BPSK) where the “third sequence” (*e.g.*, “SIGNAL” field in PLCP header) “indicates” (*e.g.*, using “0Ah”) the modulation type (*e.g.*, BPSK) used for modulating the MPDU data of the second packet. Dependent claims 2 and 59 require “transmit[ing] a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” During the Rembrandt Litigation, Rembrandt asserted that “the access code and header of a subsequent basic rate packet constitute a ‘third sequence,’ ...” *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd. et al.*, No. 2:13-cv-00213, Excerpted pages from Plaintiff Rembrandt Wireless Technologies, LP’s Disclosure of Asserted Claims and Infringement Contentions dated July 25, 2013, Exhibit C at 14, 48 (E.D. Tex.) (attached as Exhibit O). For the second packet, the “SIGNAL” field in the PLCP header uses a code (*e.g.*, “0Ah”) that “indicates” when the MPDU data is modulated using the BPSK modulation method at 1 Mbit/s. This “SIGNAL” thus “indicates that communication” from the transceiver “has reverted to the first modulation method” (*e.g.*, reverted to BPSK modulation). In addition, transmitting the data using the “first modulation method” (*e.g.*, BPSK) results in a data rate of 1 Mbit/s which is lower than transmitting the data using the “second modulation method,” which results in a data rate of 2 Mbit/s.

While Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK (which are two different types of modulation methods, *see*

*supra* §III.A.2), Snell alternatively discloses that the “first modulation method” may be differential BPSK (“DBPSK”) and the “second modulation method” may be differential QPSK (“DQPSK”) (which, again, are two different types of modulation methods, *see id.*). For example, Snell teaches that the PLCP preamble and PLCP header may be modulated using differential BPSK. Snell at 2:56-3:5 (“[t]he modulator may also preferably include header modulator means for modulating data packets to include *a header at a predetermined modulation and a third data rate defining a third format.... The third format is preferably differential BPSK.*”), 6:64-66 (“[t]he PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.”), Fig. 3. Snell also teaches that the MPDU data may be modulated using either differential BPSK or differential QPSK. *See, e.g.*, Snell at 7:6-8 (“The reference phase for the first symbol of the *MPDU* is the output phase of the last symbol of the header for *Diff Encoding.*”), Figs. 2, 5; *see also, e.g.*, Harris 4064.4 (incorporated by reference into Snell at 5:13-17) at 14 (“The preamble and header are always transmitted as *DBPSK* waveforms while the data packets can be configured to be *either DBPSK or DQPSK.*”), 14 (“The HSP3824 transmitter is designed as a Direct Sequence Spread Spectrum *DBPSK/DQPSK modulator.*”), 14 (“The modulator is capable of switching rate automatically in the case *where the preamble and header information are DBPSK modulated, and the data is DQPSK modulated.*”), 15 (“The preamble is always transmitted as a *DBPSK* waveform with a programmable length of up to 256 symbols long.”), 15 (“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as *DBPSK or DQPSK.* In mode 3 the HSP3824 receiver *looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation* at the end of the always *DBPSK* preamble and header fields.”), 16 (“Mode 3 - In this mode the preamble is programmable up to

256 bits (all 1's). The header in this mode is using all available fields. *In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK [thus] the modulation definition applies only for the data packet.*"

## 2. Overview of Harris 4064.4 (Incorporated by Reference into Snell)

Harris 4064.4 is prior art under at least § 102(e) together with Snell because it is incorporated by reference in its entirety into Snell (Snell at 5:13-17)<sup>8</sup>, a U.S. Patent filed by another in the United States on March 17, 1997, which is prior to the earliest '580 patent priority date of December 5, 1997. A copy of Harris 4064.4 was submitted to the Patent Office in an Information Disclosure Statement dated March 17, 1997, in the original filing of U.S. Patent Application No. 08/819,846, from which Snell issued ("the '846 Snell Application"). The file wrapper of the '846 Snell Application (attached as Exhibit L) includes a copy of Harris 4064.4, Exhibit L at 158-97, and a Form PTO-1449 dated March 17, 1997 cites Harris 4064.4, *id.* at 78. Harris 4064.4 is a publication by Harris Corporation dated October 1996 with a 1996 copyright notice by Harris Corporation. Harris 4064.4 at 1; Snell at cover (listing Harris 4064.4 under "Other Publications"), 5:13-17. Harris 4064.4 describes the HSP3824 Direct Sequence (DSSS) baseband processor that was a part of the PRISM chipset developed, manufactured, and sold by

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<sup>8</sup> Snell expressly incorporates by reference "the entire disclosure" of Harris 4064.4 (Snell at 5:13-17). *See Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011) ("the entire '579 application disclosure was incorporated by the broad and unequivocal language: 'The disclosures of the two applications are hereby incorporate[d] by reference.'"); *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed.Cir.2000) ("Incorporation by reference provides a method for integrating material from various documents into a host document—a patent or printed publication in an anticipation determination—by citing such material in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein.").

Harris Corporation. Harris 4064.4 at 1 (“The Harris HSP3824 Direct Sequence (DSSS) baseband processor is part of the PRISM™ 2.4 GHz radio chipset...”; “Ordering Information... Part No. HSP 3824VI”); Snell at 1:47-63, 5:8-17, 5:31-33. Harris 4064.4 is also prior art under at least §§ 102(a) and (b) because it is a printed publication that was publicly available at least as early as October 1996. Harris 4064.4 has not been previously cited to or considered by the Patent Office in connection with the ‘580 patent.

Harris 4064.4, the entirety of which is incorporated by reference into Snell, is a publication from Harris Corporation that describes features and operation of the HSP3824 baseband processor, part of the PRISM chipset disclosed in Snell. Harris Corporation was the assignee of Snell at issuance and developed and manufactured the PRISM chipset. Snell at 1:47-50. Harris 4064.4 discloses that the HSP3824 baseband processor can transmit using either DPBSK or DQPSK modulation. Harris 4064.4 at 14 (“The preamble and header are always transmitted as *DBPSK* waveforms while the data packets can be configured to be *either DBPSK or DQPSK*.”); *id.* (“The HSP3824 transmitter is designed as a Direct Sequence Spread Spectrum *DBPSK/DQPSK modulator*”); *id.* (“The modulator is capable of switching rate automatically in the case where the preamble and header information are *DBPSK* modulated, and the data is *DQPSK* modulated.”).

Harris 4064.4 also discloses that the “Signal” field of the header indicates the type of modulation used for the data portion of the packet, and that the switching can be done on-the-fly. *Id.* at 15 (“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as *DBPSK* or *DQPSK*. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from *DBPSK* demodulation into *DQPSK* demodulation at the end of the always *DBPSK* preamble and header fields.”); *id.* at 16 (“In mode



3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK [thus] the modulation definition applies only for the data packet.”); *id.* at Fig. 10.

Accordingly, Harris 4064.4 teaches that the “Signal” sequence, which is modulated using DBPSK and occurs prior to the data portion of the packet, indicates whether the modulation type for the data portion will remain as DBPSK or will switch to DQPSK.

### 3. Overview of Harris AN9614 (Incorporated by Reference into Snell)

Harris AN9614 is prior art under at least § 102(e) together with Snell because it is incorporated by reference in its entirety into Snell (Snell at 5:2-7)<sup>9</sup>, a U.S. Patent filed by another in the United States on March 17, 1997, which is prior to December 5, 1997, the earliest claimed priority date of the ‘580 patent. A copy of Harris AN9614 was submitted to the Patent Office in an Information Disclosure Statement dated March 17, 1997, in the original filing of U.S. Patent Application No. 08/819,846, from which Snell issued (“the ‘846 Snell Application”). The file wrapper of the ‘846 Snell Application includes a copy of Harris AN9614, Exhibit L at 80, 83-84, and a Form PTO-1449 dated March 17, 1997 cites Harris AN9614, *Id.* at 78. Harris AN9614 is a publication by Harris Corporation dated March 1996 with a 1996 copyright notice by Harris Corporation. Harris AN9614 at 1; Snell at cover (listing Harris AN9614 under “Other

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<sup>9</sup> Snell expressly incorporates by reference “the entire disclosure” of Harris AN9614 (Snell at 5:2-7). *See Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011) (“the entire ‘579 application disclosure was incorporated by the broad and unequivocal language: ‘The disclosures of the two applications are hereby incorporate[d] by reference.’”); *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed.Cir.2000) (“Incorporation by reference provides a method for integrating material from various documents into a host document—a patent or printed publication in an anticipation determination—by citing such material in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein.”).

Publications”), 1:47-54, 4:65-5:7. Harris AN9614 describes the HSP3824 Direct Sequence (DSSS) baseband processor that was a part of the PRISM chipset developed, manufactured, and sold by Harris Corporation. Harris AN9614 at 1, 2; Snell at 1:47-63, 5:8-17, 5:31-33; Harris 4064.4 (“The Harris HSP3824 Direct Sequence (DSSS) baseband processor is part of the PRISM™ 2.4 GHz radio chipset...”; “Ordering Information... Part No. HSP 3824VI”). Harris AN9614 is also prior art under at least §§ 102(a) and (b) because it is a printed publication that was publicly available at least as early as March 1996. Harris AN9614 has not been previously cited to or considered by the Patent Office in connection with the ‘580 patent.

Harris AN9614, the entirety of which is incorporated by reference into Snell, is a publication from Harris Corporation that describes features and operation of the PRISM chipset disclosed in Snell. Harris Corporation was the assignee of Snell at issuance and developed and manufactured the PRISM chipset. Snell at 1:47-50. Harris AN9614 discloses that the PRISM chipset described in Snell can operate in a polled (master/slave) protocol:<sup>10</sup>

[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

Harris AN9614 at 3. This discloses that when the PRISM chipset described in Snell is configured to operate in a polled (master/slave) protocol, power consumption can beneficially be reduced by more than an order of magnitude.

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<sup>10</sup> A polled protocol is a master/slave protocol, as confirmed by the ‘580 patent. ‘580 patent at 4:6-9. *See also* IPR2014-00518, Pap. 47 at 15 (“In [a polling] protocol, a centrally assigned master periodically sends a polling message to the slave nodes, giving them explicit permission to transmit on the network.”); ‘580 Prosecution History at 404; IPR2014-00518, Exhibit 1220 (Goodman Declaration) ¶103.

#### 4. Overview of Admitted Prior Art

The '580 patent describes a prior art multipoint network architecture using a master modem and at least two tribs, with the specification making clear that "tribs" are the same thing as "slaves." '580 patent at 3:40-4:50, Figs. 1, 2. For example, in the "Description of the Illustrative Embodiments," the '580 patent discusses an "exemplary" multipoint communication protocol, asserting that in such a protocol the "master ... permits transmission from a trib only when that trib has been selected." '580 patent at 4:4:9. In its "Summary," the '580 patent describes a "master/slave" relationship as being one where "communication from a slave to a master occurs in response to a communication from the master to the slave." '580 patent at 2:24-29. Thus, the '580 patent teaches that "tribs" and "slaves" are both controlled by a master, which demonstrates that in the '580 patent, tribs and slaves are the same thing, and the terms are used interchangeably.

Both the figures and the specification of the '580 patent admit that communications systems using master/slave relationships were known in the prior art. In particular, Figure 1, which shows a master transceiver 24 in communication with three tributary transceivers, *i.e.*, slaves, is labeled as "Prior Art." *See In re Nomiya*, 509 F.2d 566, 571 (CCPA 1975) (holding applicant's labeling of two figures in the application drawings as "prior art" to be an admission that what was pictured was prior art relative to applicant's improvement); MPEP § 2129. In addition, the specification of the '580 patent admits that multipoint communication systems utilizing a master and multiple slaves were known in the prior art. *Id.* at 3:40-44 ("With reference to FIG. 1, *a prior art multipoint communication system 22 is shown to comprise a master modem or transceiver 24, which communicates with a plurality of tributary modems (tribs) or transceivers 26-26 over communication medium 28.*") (emphasis added); *see Pharmastem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1362 (Fed. Cir. 2007)

(“Admissions in the specification regarding the prior art are binding on the patentee for purposes of a later inquiry into obviousness.”); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570 (Fed.Cir.1988); § 2129.

Patentee made further admissions during prosecution of one of the parent applications to the ‘580 patent. As will be discussed in more detail below, one of the parent applications to the ‘580 patent is Serial No. 09/205,205, which issued as U.S. Patent No. 6,614,838 (“the ‘838 Patent”). During prosecution of the ‘838 patent, an Office Action, mailed on June 28, 2001, required the Applicant to designate Figure 2 as prior art. Ex. J at 3. (“Figure 2 should be designated by a legend such as - prior art - because only that which is old is illustrated.”). In a “First Amendment And Response” filed October 1, 2001, the Applicant made the amendment, thus admitting that the subject matter shown in Figure 2 was known in the prior art. Ex. K at 5, 9. The specification of the ‘580 patent describes the prior art shown in Figure 2 as follows:

Referring now to FIG. 2, an exemplary multipoint communication session is illustrated through use of a ladder diagram. This system uses polled multipoint communication protocol. That is, *a master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.*

‘580 patent at 4:4-9 (emphasis added). Lest there be any doubt that polled multipoint communications using masters and slaves are admitted prior art, the specification says that the operation of the prior art system of Fig. 1 is illustrated in Fig. 2. *Id.* at 3:9-10 (“FIG. 2 is a ladder diagram illustrating the operation of the multipoint communication system of FIG. 1.”).

Patentee’s admissions in the ‘580 patent and the prosecution history of its ancestor ‘205 application regarding the fact that master/slave communication systems are prior art are binding, and can be used when determining whether a claim is obvious. *Pharmastem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1362 (Fed. Cir. 2007) (“Admissions in the specification regarding the prior art are binding on the patentee for purposes of a later inquiry into obviousness.”);

*Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570 (Fed.Cir.1988) (“A statement in the patent that something is in the prior art is binding on the applicant and patentee for determinations of anticipation and obviousness.”).

The PTAB correctly found that “the ‘580 patent's disclosed multipoint communication systems (or master/slave systems), depicted in Figures 1 and 2 and described in column 3, line 40 through column 4, line 50, contains material that may be used as prior art against the patent under 35 U.S.C. § 103(a).” IPR2014-00518, Pap. 47 at 13; ‘580 Prosecution History at 402. *See also* IPR2014-00519, Pap. 49 at 5; IPR2014-00892, Pap. 46 at 13, 19; IPR2014-00893, Pap. 44 at 13, 19; IPR2014-00895, Pap. 44 at 13.

The prior art master/slave system depicted in Figures 1 and 2 and described in column 3, line 40 through column 4, line 50 (“Admitted Prior Art”) includes “a master modem or transceiver 24, which communicates with a plurality of tributary modems (tribs) or transceivers 26-26 [(slave transceivers)] over communication medium 28.” ‘580 patent at 3:41-44.

The master/slave system described in the Admitted Prior Art operates using a polled multipoint communication protocol. *Id.* at 4:6. In this protocol, “a master [transceiver] controls the initiation of its own transmission to the tribs and permits transmission from a trib [(i.e., slave transceiver)] only when that trib has been selected.” *Id.* at 4:7-9. The master transceiver selects a trib by “transmit[ting] a training sequence 34 that includes the address of the trib that the master seeks to communicate with. In this case, the training sequence 34 includes the address of trib 26a.” *Id.* at 4:14-17. Further, “[b]ecause master transceiver 24 selected trib 26a for communication as part of training sequence 34, trib 26a is the only modem that will return a transmission. Thus, trib 26a transmits data 44 destined for master transceiver 24.” *Id.* at 4:29-33.

The Admitted Prior Art describes that the master can poll another trib (*i.e.*, slave transceiver) for data as well:

The foregoing procedure is repeated except master transceiver identifies trib 26b in training sequence 48. In this case, trib 26a ignores the training sequence 48 and the subsequent transmission of data 52 and trailing sequence 54 because it does not recognize its address in training sequence 48. Master transceiver 24 transmits data 52 to trib 26b followed by trailing sequence 54 . . . To send information back to master transceiver 24, trib 26b transmits training sequence 56 to establish a communication session. Master transceiver 24 is conditioned to expect data only from trib 26b because trib 26b was selected as part of training sequence 48. Trib 26b transmits data 58 to master transceiver 24 terminated by trailing sequence 62.

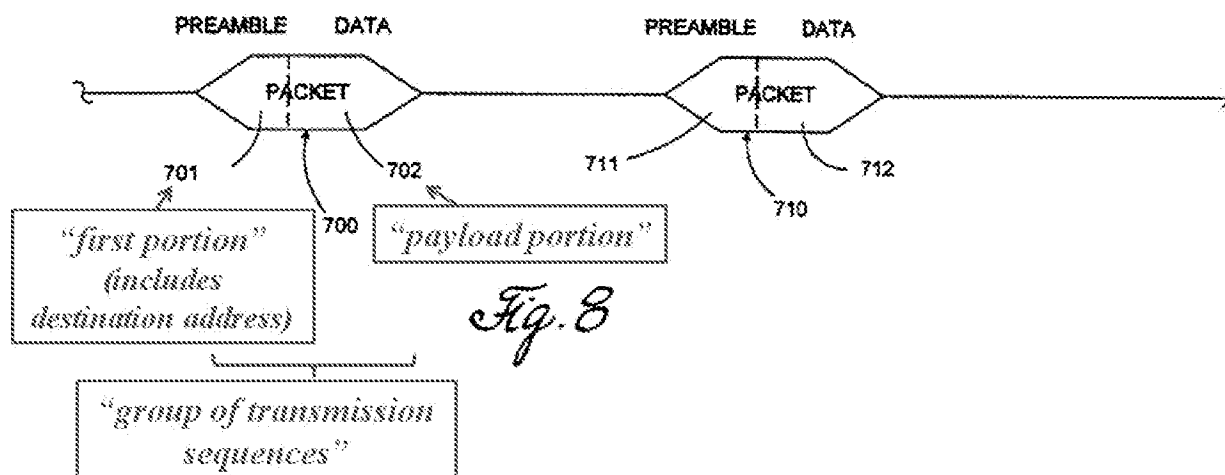
*Id.* at 4:35-50.

Accordingly, the Admitted Prior Art describes a prior art master/slave relationship in which a slave communication (*e.g.*, 44, 58) from a slave (*e.g.*, 26a, 26b) to a master (*e.g.*, 24) occurs in response to a master communication (*e.g.*, 34, 48) from the master (*e.g.*, 24) to the slave (*e.g.*, 26a, 26b).

## **5. Overview of Yamano**

Yamano is prior art under at least § 102(e) because it is a U.S. Patent filed by another in the United States on May 9, 1997, which is prior to December 5, 1997, the earliest claimed priority date of the '580 patent. Yamano has not been previously cited to or considered by the Patent Office in connection with the '580 patent.

Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address for an intended destination of the payload portion. Yamano at 19:63-64 ("Packet 700 includes a preamble 701 and a main body 702."); Yamano at 20:1-7 ("For example, preamble 701 can include information which identifies: . . . (2) packet source and destination addresses."). Yamano also discloses that the preamble precedes the main body (containing data), as shown in Figure 8:



Yamano at Fig. 8 (annotated).

Further, Yamano discloses that including the destination address in the preamble is advantageous because the receiver can demodulate only those packets that are addressed to it, thereby reducing its processing requirements. *Id.* at 20:54-59.

## 6. Overview of Kamerman

Kamerman is prior art under at least § 102(a) because it is a printed publication that was publicly available at least as early as September 22-25, 1996, which is prior to December 5, 1997, the earliest claimed priority date of the '580 patent. Kamerman (attached as Exhibit I) is an article titled "Throughput Density Constraints for Wireless LANs Based on DSSS," authored by Ad Kamerman, published by IEEE at the 1996 IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings held from September 22-25, 1996 in Mainz, Germany. Kamerman at 3. Kamerman also bears a copyright date of 1996 by the Institute of Electrical and Electronics Engineers, Inc. (Kamerman at 4) and was available to the public in the Library of Congress as early as January 16, 1997, as indicated by the Library of Congress date stamp of January 16, 1997 (Kamerman at 2). Kamerman has not been previously cited to or considered by the Patent Office in connection with the '580 patent.

Kammerman, like Snell, relates to DSSS transceivers designed according to the then-draft IEEE 802.11 standard, and discloses an automatic rate selection scheme for transmitting a first data packet where the data is modulated using a second modulation method (*e.g.*, QPSK at 2 mbps) and next transmitting a second data packet where the data is modulated using a first modulation method (*e.g.*, BPSK at 1 mbps) to adjust the data transfer rate based on channel conditions. *Id.* at 11 (“IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. . . . An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: *after unacknowledged packet transmissions the rate falls back*, and after a number (*e.g.* 10) of successive correctly acknowledged packet transmissions the bit rate goes up.”). Kamerman discloses that the data transfer rates can fall forward (*i.e.*, increase) with reliable connections and fall back (*i.e.*, revert) when there is strong cochannel interference. *Id.* at 12 (“The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and *fall back at strong cochannel interference.*”).

Kammerman discloses adjusting the data transfer rates by switching between modulation types, including between a second modulation method, such as QPSK (which corresponds to a higher data transfer rate) and a first modulation method of a different type, such as BPSK (which corresponds to a lower data transfer rate). *Id.* at 11. Kamerman teaches that the automatic rate selection scheme can maximize the data transfer rate by transmitting the data using the second modulation method (which corresponds to the higher data transfer rate) when there is a reliable connection and reverting to transmitting the data using the first modulation method (which



corresponds to a lower data transfer rate) during higher load conditions when a more robust signal is needed due to “mutilation of transmissions by interference.”

At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.

*Id.* at 11.

Accordingly, Kamerman discloses an automatic rate selection scheme for transmitting a first data packet where the data is modulated using a second modulation method (*e.g.*, QPSK at 2 mbps) when there is a reliable connection to maximize the data transfer rate, and, after unacknowledged packet transmissions (for instance, when there is a high load in neighbor cells causing cochannel interference which requires a more robust signal) next transmitting a second data packet where the data is modulated using a first modulation method (*e.g.*, BPSK at 1 mbps) (*i.e.*, “falling back” or “reverting”). This automatic rate selection scheme is advantageous because it maximizes the data transfer rate when possible while preserving reliability during periods of strong cochannel interference.

**C. SNQ-1: Unpatentability of Claims 2 and 59 Under 35 U.S.C. § 103 Over Snell, Yamano, and Kamerman**

Requesters submit that the combined teachings of Snell (submitted herewith as Exhibit D), Yamano (submitted herewith as Exhibit H) and Kamerman (submitted herewith as Exhibit I) raise a substantial new question of patentability with respect to claims 2 and 59 of the ‘580 patent, and that claims 2 and 59 of the ‘580 patent are unpatentable under 35 U.S.C. 103 as obvious over Snell in view of Yamano and Kamerman.

It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A POSITA would have been motivated and found it obvious and straightforward to use Yamano's teaching of including a destination address in the data packet in implementing Snell's teachings of a communication system for transmitting data packets to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate. Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (*see, e.g.*, Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates (*see, e.g.*, Snell at 2:15-17, 6:52-59; Yamano at 19:54-56). Yamano expressly teaches that including a destination address in the preamble portion of the data packet, which precedes the data portion, will advantageously reduce processing requirements of receiving devices because the receiving device can filter out packets which it does not need to demodulate. Yamano at 20:54-59 ("When the preamble in a burst-mode packet *includes the destination address of the packet*, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits."). In addition, Snell teaches structuring its data packet to include a preamble, header, and MPDU data portion (*see, e.g.*, Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3), and Yamano teaches structuring its data packet to also include a preamble and data portion, and to place the destination address in the preamble portion (Yamano at 19:63-20:7, Fig. 8). It would have been routine and straightforward for a POSITA to include a destination address in the data packet, as taught by Yamano, in implementing Snell's system for transmitting data packets between transceivers, as Snell teaches that its data packet already includes a

preamble portion—and in combination, each element (Yamano’s teaching of placing a destination address in the preamble and Snell’s teaching of a system for communicating data packets modulated according to different modulation methods between transceivers) performs the same function as it would separately, yielding nothing more than predictable results. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to use Yamano’s advantageous teachings of including a destination address in the data packet in implementing Snell’s communication system.

It was also well-known in the art, as demonstrated by Kamerman, to transmit a first data packet where the data is modulated using a second modulation method, such as QPSK (corresponding to a higher data transfer rate), and to next transmit a second data packet where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (*i.e.*, to revert to the first modulation method). A POSITA would have been motivated and found it obvious and straightforward to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell’s system for communicating data packets modulated according to different modulation methods (implemented using the teachings of Yamano, as discussed above) to advantageously maximize the data transfer rate and adapt to changing channel conditions (as also taught by Kamerman). In particular, Kamerman expressly teaches that it is beneficial to transmit the data of a first data packet using a second modulation method corresponding to a higher data transfer rate (*e.g.*, QPSK modulation at 2 mbps) during lower load conditions to maximize the

data transfer rate during lower load conditions when the connection is more reliable and to next transmit the data of a second data packet using a first modulation method corresponding to a lower data transfer rate (*e.g.*, BPSK modulation at 1 mbps) (*i.e.*, falling back) during higher load conditions when a more robust signal is needed due to “mutilation of transmissions by interference.” *See* Kamerman at 6 (“Then there is looked to *automatic rate control* to keep the cochannel interference at a tolerable level.”), 11 (“The basic rate adaptation scheme could be: *after unacknowledged packet transmissions the rate falls back*, and after a number (*e.g.* 10) of successive correctly acknowledged packet transmissions the bit rate goes up.”), 11 (“At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, *will be done at fallback rates due to mutilation of transmissions by interference*. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. *Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells ... there will be switched to fall back rates in the outer part of the cell.*”), 12 (“This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference. Therefore it gives adaptation of the bit rate to the interference as it occurs in time depending on positions as load.”).

Moreover, Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard available at that time. *See, e.g.*, Snell at 1:47-63 (“The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 *which is compatible with the*

*proposed IEEE 802.11 standard...*”), 5:31-33 (“The present invention provides an extension of the PRISM 1 product from *1 Mbit/s BPSK and 2 Mbit/s QPSK...*”); Kamerman at 6 (“This paper considers the critical parameters for *wireless LANs that operate conform to the IEEE 802.11 DSSS (direct sequence spread spectrum) standard...*”), 11 (“IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps.”), 11 (“IEEE 802.11 DS specifies BPSK and QPSK...”). It would have been routine and straightforward for a POSITA to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell’s system (implemented in light of Yamano) for communicating data packets modulated according to different modulation methods, as both Snell and Kamerman are directed to IEEE 802.11 systems utilizing QPSK and BPSK modulation methods corresponding, respectively, to higher and lower data transfer rates—and in combination, each element (Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method and Snell’s system for communicating data packets modulated according to different modulation methods) performs the same function as it would separately, yielding nothing more than predictable results. *KSR*, 550 U.S. at 417. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to implement Kamerman’s advantageous teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell’s

system (implemented in light of Yamano) for communicating data packets modulated according to different modulation methods.

The combination of Snell, Yamano, and Kamerman shows or renders obvious each and every element of the inventions of claims 2 and 59. The relevant teachings of the combination of Snell, Yamano, and Kamerman were not considered during the prior examination of the ‘580 patent and a reasonable Examiner would consider these disclosures important in determining whether or not the claims are patentable.

Therefore, the combination of Snell, Yamano, and Kamerman raises a substantial new question of patentability with respect to claims 2 and 59 of the ‘580 patent (SNQ-1) and presents new technological teachings not previously considered in connection with prosecution of the ‘580 patent. MPEP § 2216. Accordingly, Requesters propose that claims 2 and 59 should be rejected under § 103 as rendered obvious by Snell in view of Yamano and Kamerman.

The following claim chart demonstrates, in further detail, how each limitation is, at a minimum, obvious in light of Snell, Yamano, and Kamerman.

'580 Patent Claim 2	SNQ-1: Combined Disclosure of Snell, Yamano, and Kamerman
<p>1.[preamble] A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell discloses a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave. See, e.g., Snell at 1:34-46, 1:47-50, 1:55-57, 2:27-30, 4:42-47, 5:18-21; Harris AN9614 at 3.</b></p> <p>For example, Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN).</p> <p>“In a typical WLAN, <i>an access point provided by a transceiver</i>, that is, a combination transmitter and receiver, connects to the wired network from a fixed location. Accordingly, the access transceiver receives, buffers, and transmits data between the WLAN and the wired network. <i>A single access transceiver can support a small group of collocated users within a range</i></p>

'580 Patent Claim 2	SNQ-1: Combined Disclosure of Snell, Yamano, and Kamerman
	<p><i>of less than about one hundred to several hundred feet. The end users connect to the WLAN through transceivers which are typically implemented as PC cards in a notebook computer, or ISA or PCI cards for desktop computers. Of course the transceiver may be integrated with any device, such as a hand-held computer.”</i> Snell at 1:34-46.</p> <p>“Like the HSP3824 baseband processor, the high data rate baseband processor 40 of the invention contains all of the functions necessary for a full or half duplex packet baseband <i>transceiver</i>.” Snell at 5:18-21.</p> <p>“The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, <i>packet communications</i> at the 2.4 to 2.5 GHz ISM radio band.” Snell at 1:55-57.</p> <p><i>See also, e.g.,</i> Snell at 2:27-30 (“It is another object of the invention to provide a <i>spread spectrum transceiver</i> and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.”); Snell at 1:47-50 (“The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard.”); Snell at 4:42-47 (“Referring to FIG. 1, a <i>wireless transceiver 30</i> in accordance with the invention is first described. The <i>transceiver 30</i> may be readily used for WLAN applications in the 2.4 GHz ISM band in accordance with the proposed IEEE 802.11 standard. Those of skill in the art will readily recognize other applications for the transceiver 30 as well.”).</p> <p>Snell incorporates by reference Harris AN9614,<sup>11</sup> which discloses that the communications between transceivers can operate according to a polled (i.e., master/slave) protocol.<sup>12</sup> <i>See, e.g.,</i> Harris AN9614 at 3.</p> <p>“[T]he controller can keep adequate time to operate either a polled or a</p>

<sup>11</sup> Snell expressly incorporates by reference “the entire disclosure” of Harris AN9614 (Snell at 5:2-7). *See Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011) (“the entire ‘579 application disclosure was incorporated by the broad and unequivocal language: ‘The disclosures of the two applications are hereby incorporate[d] by reference.’”); *see also Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed.Cir.2000) (“material not explicitly contained in the single, prior art document may still be considered for purposes of anticipation if that material is incorporated by reference into the document.”).

<sup>12</sup> A polled protocol is a master/slave protocol, as confirmed by the ‘580 patent. ‘580 patent at 4:6-9. *See also* IPR2014-00518, Pap. 47 at 15 (“In [a polling] protocol, a centrally assigned master periodically sends a polling message to the slave nodes, giving them explicit permission to transmit on the network.”); ‘580 Prosecution History at 404; IPR2014-00518, Exhibit 1220 (Goodman Declaration) ¶103.

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	time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.” Harris AN9614 at 3.
[1.A] a transceiver, in the role of the master according to the master/ slave relationship,	<p><b>Snell discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See</i> Element 1.preamble.</p>
[1.B] for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,	<p><b>Snell discloses a transceiver for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.<sup>13</sup> <i>See, e.g.,</i> Snell at Abstract, 1:58-61, 2:56-59, 2:61-3:5, 6:64-66, 7:6-8, Figs. 2, 3, 5; Harris 4064.4 at 14-16.</b></p> <p>For example, Snell discloses that transmissions are modulated using a “first modulation method” (<i>e.g.</i>, BPSK) and a “second modulation method” (<i>e.g.</i>, QPSK) that is of a different “type” than the “first modulation method.”</p> <p>“The modulator preferably comprises means for operating <i>in one of a bi-phase PSK (BPSK) modulation mode</i> at a first data rate defining a first format, and <i>a quadrature PSK (QPSK) mode</i> at a second data rate defining a second format.” Snell at 2:56-59.</p> <p>“In particular, the HSP3824 baseband processor manufactured by Harris Corporation <i>employs quadrature or bi-phase phase shift keying (QPSK or</i></p>

<sup>13</sup> In IPR2014-00518, the Board construed the limitation “different ‘types’ of modulation methods” in ‘580 claims 1 and 58 to mean “modulation methods that are incompatible with each other” and found that “two modulation methods that are based on varying the same one of the frequency, amplitude, or phase of the carrier wave may be different ‘types’ of modulation methods.” IPR2014-00518, Pap. 47 (Final Written Decision) at 12. The Board also found that the “DQPSK ... modulation method[] [is] incompatible with DBPSK modulation.” *Id.* at 18.



'580 Patent Claim 2	SNQ-1: Combined Disclosure of Snell, Yamano, and Kamerman
	<p><i>BPSK) modulation schemes.”</i> Snell at 1:58-61.</p> <p><i>See also, e.g.,</i> Snell at Abstract (“The modulator and demodulator are each preferably operable <i>in one of a bi-phase PSK (BPSK) mode</i> at a first data rate and <i>a quadrature PSK (QPSK) mode</i> at a second data rate. These formats may also be switched on-the-fly in the demodulator.”), 2:15-17 (“Moreover, a WLAN application, for example, may require a change between <i>BPSK and QPSK</i> during operation, that is, on-the-fly.”).</p> <p>Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK, which is “of a different type than the first modulation method,” and alternatively describes that the “first modulation method” may be differential BPSK (“DBPSK”) and that the “second modulation method” may be differential QPSK (“DQPSK”), which is also “of a different type than the first modulation method.”</p> <p>Thus, Snell alternatively discloses modulating the PLCP preamble and PLCP header using DBPSK modulation, and modulating the MPDU data using DBPSK or DQPSK modulation.</p> <p><i>“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.”</i> Snell at 6:64-66.</p> <p><i>“The modulator may also preferably include header modulator means for modulating data packets to include a header at a predetermined modulation and a third data rate defining a third format.... The third format is preferably differential BPSK.”</i> Snell at 2:61-3:5.</p> <p><i>“The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding.”</i> Snell at 7:6-8.</p> <div style="text-align: center;"> <p>The diagram shows a frame structure with the following fields and durations:</p> <ul style="list-style-type: none"> <li>SYNC(128)</li> <li>SFD(18)</li> <li>SIGNAL(8)</li> <li>SERVICE(8)</li> <li>LENGTH(16)</li> <li>CRC(16)</li> <li>MPDU (VARIABLE)</li> </ul> <p>The total duration of the SYNC, SFD, SIGNAL, SERVICE, LENGTH, and CRC fields is 192 μs. The PLCP PREAMBLE (SYNC, SFD, SIGNAL) has a duration of 144 μs. The PLCP HEADER (SERVICE, LENGTH, CRC) has a duration of 48 μs. A SWITCHCOVER POINT is located at the end of the PLCP HEADER.</p> <p>Below the diagram, it is noted that the PLCP PREAMBLE and PLCP HEADER are transmitted using DBPSK at 1 Mbit/s (per 802.11), and the MPDU is transmitted using different formats and rates.</p> </div> <p><b>FIG. 3</b></p> <p>Snell at Fig. 3.</p>

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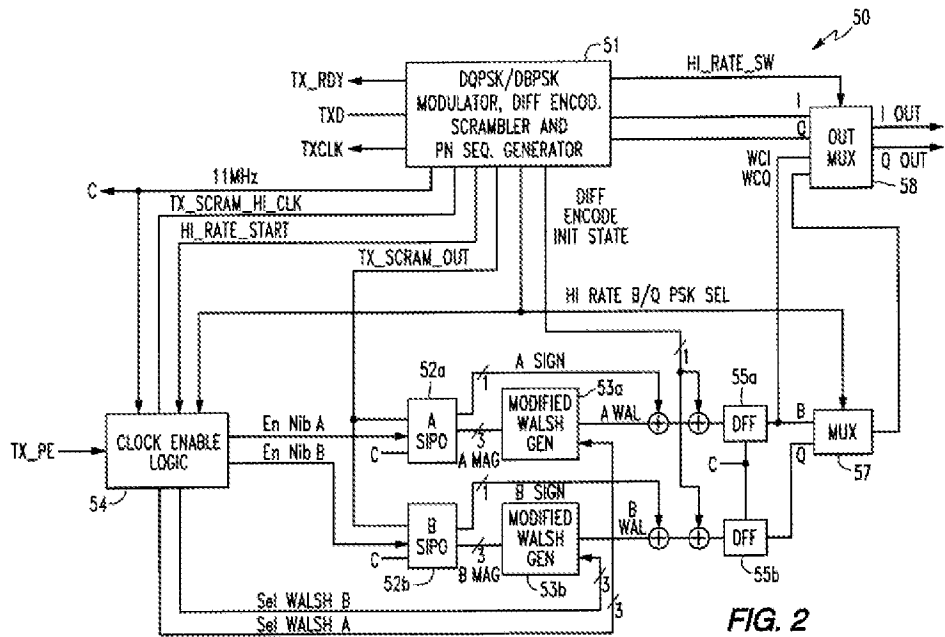


FIG. 2

Snell at Fig. 2.

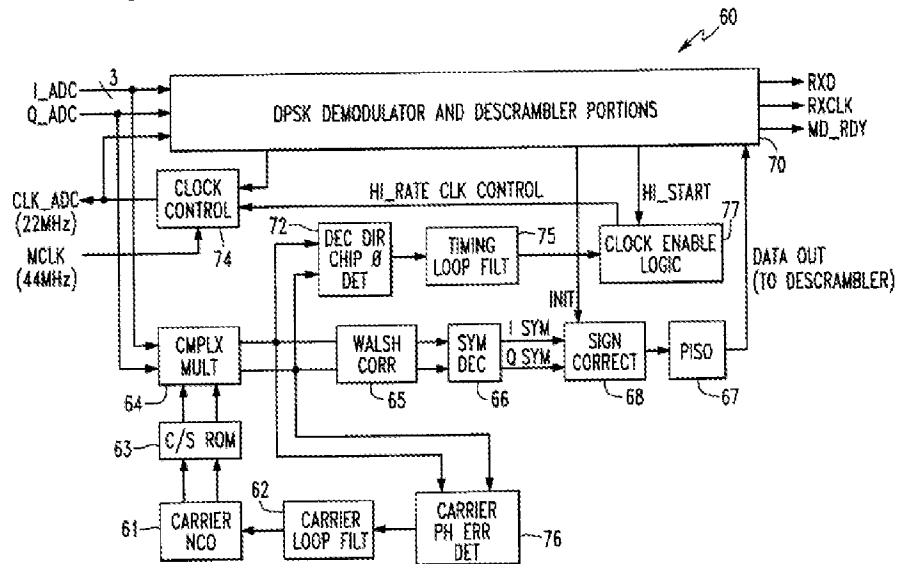


FIG. 5

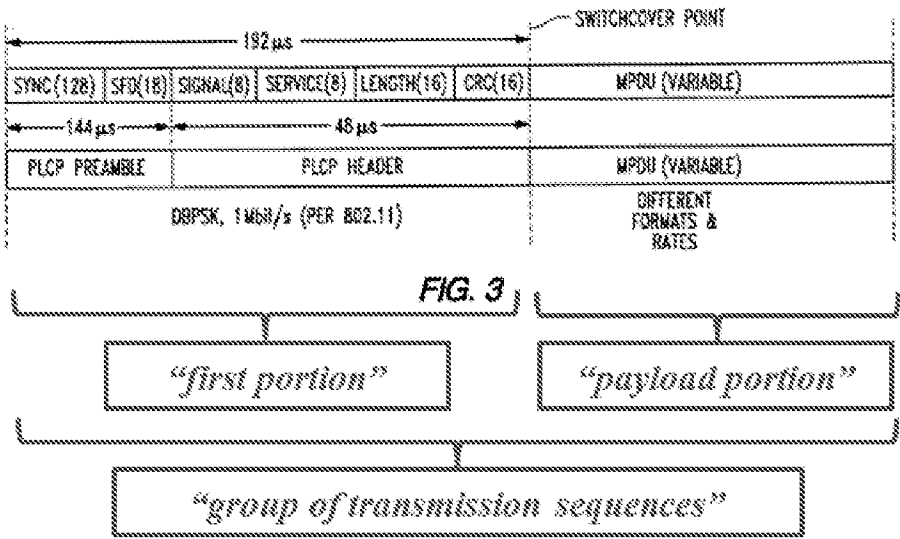
Snell at Fig. 5.

Snell incorporates by reference Harris 4064.4,<sup>14</sup> which discloses:

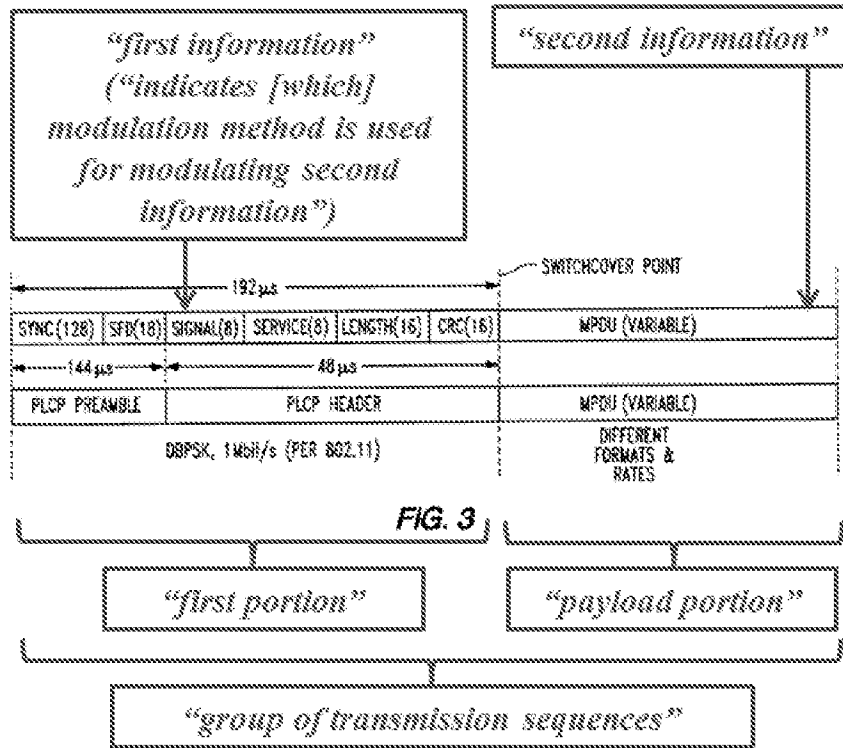
<sup>14</sup> Snell expressly incorporates by reference “the entire disclosure” of Harris 4064.4 (Snell at 5:8-17, 5:31-33). *See Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011) (“the entire ‘579

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	<p>“The preamble and header are always transmitted as <i>DBPSK</i> waveforms while the data packets can be configured to be <i>either DBPSK or DQPSK</i>.” Harris 4064.4 at 14.</p> <p>“The HSP3824 transmitter is designed as a Direct Sequence Spread Spectrum <i>DBPSK/DQPSK modulator</i>.” Harris 4064.4 at 14.</p> <p>“The modulator is capable of switching rate automatically in the case where the preamble and header information are <i>DBPSK</i> modulated, and the data is <i>DQPSK</i> modulated.” Harris 4064.4 at 14.</p> <p><i>See also, e.g.</i>, Harris 4064.4 at 15 (“The preamble is always transmitted as a <i>DBPSK</i> waveform with a programmable length of up to 256 symbols long.”); Harris 4064.4 at 15 (“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as <i>DBPSK or DQPSK</i>. In mode 3 the HSP3824 receiver <i>looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation</i> at the end of the always <i>DBPSK</i> preamble and header fields.”); Harris 4064.4 at 16 (“Mode 3 - In this mode the preamble is programmable up to 256 bits (all 1’s). The header in this mode is using all available fields. In mode 3 the signal field defines the modulation type of the data packet (<i>DBPSK or DQPSK</i>) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to <i>DQPSK</i> if it is defined as such in the signal field. Note that the preamble and header are always <i>DBPSK</i> the modulation definition applies only for the data packet.”).</p>
[1.C] wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion	<p><b>Snell discloses each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion. <i>See, e.g., Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3.</i></b></p> <p>For example, Snell discloses transmitting a group of transmission sequences structured with a “first portion” including the PLCP preamble and PLCP header and a “payload portion” including the MPDU data (as depicted in Figure 3 below)</p>

application disclosure was incorporated by the broad and unequivocal language: “The disclosures of the two applications are hereby incorporate[d] by reference.”); *see also Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed.Cir.2000) (“material not explicitly contained in the single, prior art document may still be considered for purposes of anticipation if that material is incorporated by reference into the document.”).

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<p>and a payload portion</p>	 <p>FIG. 3</p> <p>“first portion”</p> <p>“payload portion”</p> <p>“group of transmission sequences”</p> <p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header</i> may always be BPSK.” Snell at 6:35-36.</p> <p>“<i>The PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.” Snell at 6:64-66.</p> <p>“<i>MPDU</i> is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data</i> may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p>
<p>[1.D] wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion,</p>	<p><b>Snell discloses that first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion. See, e.g., 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14; Harris 4064.4 at 15-16, Fig. 10.</b></p> <p>For example, Snell discloses that the “SIGNAL” in the PLCP Header indicates (e.g., using “OAh,” “14h,”...) the modulation type (e.g., BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion.</p>

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Snell at Fig. 3 (annotated).

“The *header* may always be BPSK.” Snell at 6:35-36.

“The *PLCP preamble* and *PLCP header* are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.” Snell at 6:64-66.

“Now relating to the *PLCP header* 91, the *SIGNAL* is:

0Ah	1 Mbit/s BPSK,
14h	2 Mbit/S QPSK,
37h	5.5 Mbit/s BPSK, and
6Eh	11 Mbit/s QPSK.

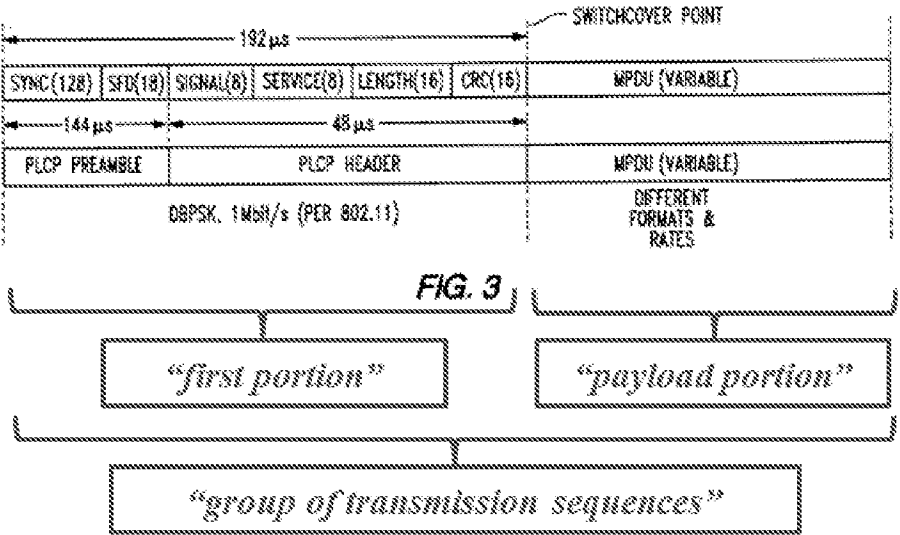
Snell at 6:52-59.

“*SIGNAL* is indicated by 2 control bits and then formatted as described.” Snell at 7:1-2.

“*MPDU* is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be

'580 Patent Claim 2	SNQ-1: Combined Disclosure of Snell, Yamano, and Kamerman
	<p>followed by the first bit of the MPDU. <i>The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.</i>" Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>15</sup> which discloses:</p> <p><i>"Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields."</i> Harris 4064.4 at 15.</p> <p><i>"In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet."</i> Harris 4064.4 at 16.</p> <p><i>See also, e.g.,</i> Harris 4064.4 at FIGURE 10.</p>
<p>[1.E] wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and</p>	<p><b>Snell in view of Yamano discloses that at least one group of transmission sequences is addressed for an intended destination of the payload portion. <i>See, e.g., 6:35-36, 6:64-66, 7:5-14, Fig. 3; Harris 4064.4 at 14.</i></b></p> <p>For example, Snell discloses that the transceiver transmits a group of transmission sequences (including a PLCP Preamble and PLCP header, and MPDU data) to another transceiver.</p>

<sup>15</sup> *See supra* n.14.

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	 <p>FIG. 3</p> <p>“first portion”</p> <p>“payload portion”</p> <p>“group of transmission sequences”</p> <p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header</i> may always be BPSK.” Snell at 6:35-36.</p> <p>“The <i>PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.” Snell at 6:64-66.</p> <p>“<i>MPDU</i> is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>16</sup> which discloses:</p> <p>“The <i>preamble and header</i> are always transmitted as DBPSK waveforms while the <i>data packets</i> can be configured to be either DBPSK or DQPSK.” Harris 4064.4 at 14.</p> <p><b>Yamano<sup>17</sup> discloses at least one group of transmission sequences is addressed for an intended destination of the payload portion. See, e.g., Yamano at 19:63-64, 20:1-7, 20:54-59, Fig. 8.</b></p>

<sup>16</sup> See *supra* n.8.

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	<p>For example, Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.”</p> <p>“<i>Packet 700</i> includes a <i>preamble 701</i> and a <i>main body 702</i>.” Yamano at 19:63-64.</p> <p>“For example, <i>preamble 701</i> can include information which identifies: (1) a version or type field for the preamble, (2) <i>packet source and destination addresses</i>, (3) the line code (i.e., the modem protocol being used), (4) the data rate, (5) error control parameters, (6) packet length and (7) a timing value for the expected reception slot of a subsequent packet.” Yamano at 20:1-7 (emphasis added).</p> <div> </div> <p>Yamano at Figure 8 (annotated).</p> <p>“When the preamble in a burst-mode packet <i>includes the destination address of the packet</i>, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.” Yamano at 20:54-59.</p>
[1.F] wherein for the at least one group of transmission sequences: the first information for said at least one group of	<p><b>Snell discloses for the at least one group of transmission sequences, the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method. <i>See, e.g., Snell</i></b></p>

<sup>17</sup> As explained in Section III.C, a POSITA would have been motivated and found it obvious and straightforward to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets.

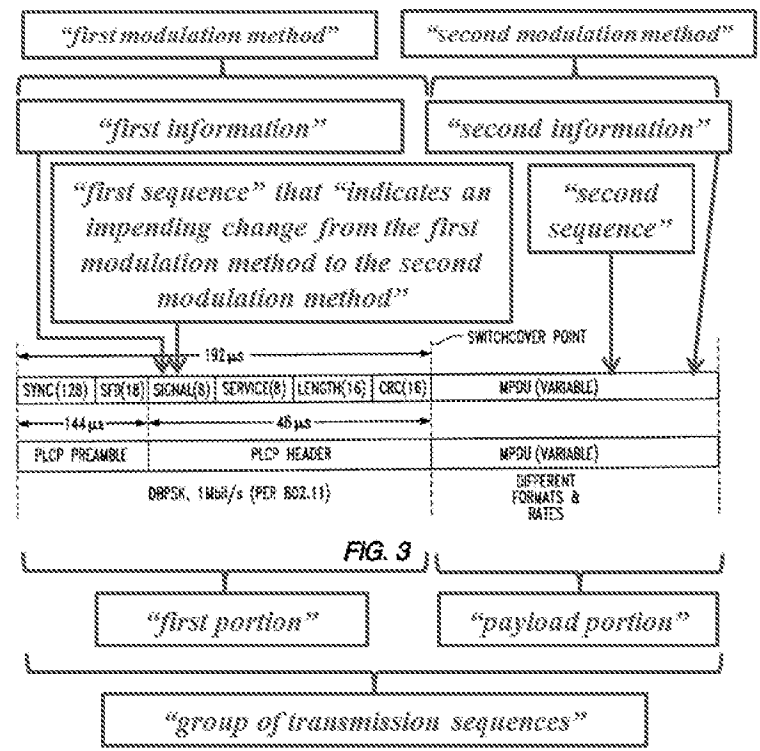


**'580 Patent Claim 2**      **SNQ-1: Combined Disclosure of Snell, Yamano, and Kamerman**

transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

at 2:61-3:5, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Figs. 2, 3, 5; Harris 4064.4 at 15-16, Fig. 10.

For example, Snell discloses that the “first information” (e.g., PLCP preamble and PLCP header) comprises a “first sequence (e.g., “*SIGNAL*” field in PLCP header) “modulated according to a first modulation method” (e.g., BPSK). The “*SIGNAL*” field “indicates” (e.g., using “14h”) “an impending change from the first modulation method” (e.g., BPSK) “to the second modulation method” (e.g., QPSK).



Snell at Fig. 3 (annotated).

“The header may always be BPSK.” Snell at 6:35-36.

“Now relating to the PLCP header 91, the SIGNAL is:

0Ah	1 Mbit/s BPSK,
14h	2 Mbit/S QPSK,
37h	5.5 Mbit/s BPSK, and
6Eh	11 Mbit/s QPSK.

Snell at 6:52-59.

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	<p>“SIGNAL is indicated by 2 control bits and then formatted as described.” Snell at 7:1-2.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK, which is of a different “type” than the first modulation method, and alternatively describes that the “first modulation method” may be differential BPSK (“DBPSK”) and that the “second modulation method” may be differential QPSK (“DQPSK”), which is also of a different “type” than the first modulation method.</p> <p>Thus, Snell alternatively discloses that the PLCP preamble and PLCP header includes a “SIGNAL” field that may be modulated according to a “first modulation method” (e.g., <u>DBPSK</u>) and “indicates an impending change from the first modulation method” (e.g., <u>DBPSK</u>) “to the second modulation method” (e.g., <u>DQPSK</u>).</p> <p>“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.” Snell at 6:64-66.</p> <p>“The modulator may also preferably include header modulator means for modulating data packets to include a header at a predetermined modulation and a third data rate defining a third format.... The third format is preferably differential BPSK.” Snell at 2:61-3:5.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding.” Snell at 7:5-8. See also, e.g., Snell at Figs. 2, 3, 5.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>18</sup> which discloses:</p> <p>“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs</p>

<sup>18</sup> See *supra* n. 14.

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	<p><i>to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields.” Harris 4064.4 at 15.</i></p> <p><i>“In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet.” Harris 4064.4 at 16.</i></p> <p><i>See also, e.g., Harris 4064.4 at FIGURE 10.</i></p>
<p>[1.G] the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</p>	<p><b>Snell discloses that the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See Element 1.F.</i></p>
<p>2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</p>	<p><i>See claim 1. <b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. See, e.g., Snell at 1:55-57, 2:27-30, 2:61-63, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Fig. 3; Harris 4064.4 at 15-16, Fig. 10.; Kamerman at 6, 11, 12.</b></i></p> <p><i>For example, Snell discloses a transceiver for transmitting data packets to another transceiver, where the communication may switch on-the-fly between different types of modulation methods.</i></p> <p><i>“The modulator may also preferably include header modulator means for modulating data packets.” Snell at 2:61-63.</i></p> <p><i>“The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, packet communications at the</i></p>

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	<p>2.4 to 2.5 GHz ISM radio band.” Snell at 1:55-57.</p> <p>“It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and <i>which may switch on-the-fly between different data rates and/or formats.</i>” Snell at 2:27-30.</p> <p>“The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and <i>while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.</i>” Snell at 7:10-14.</p> <p>Snell also discloses that the “<b>SIGNAL</b>” field in the header of the packet is modulated in a first modulation method and indicates the modulation type (e.g., BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion. <i>See Element 1.D.</i></p> <div style="border: 1px dashed black; padding: 10px;"> <p>The diagram shows two transmission sequences side-by-side. Each sequence starts with a 'first sequence' (PLCP preamble and PLCP header) modulated with a 'first modulation method' (BPSK). This is followed by a 'second sequence' (MPDU data) modulated with a 'second modulation method' (QPSK). A 'switchover point' is indicated between the sequences. The second sequence is annotated with a 'third sequence' (the SIGNAL field in the PLCP header) that 'indicates... reversal to the first modulation method'. The second sequence is also annotated with a 'switchover point'.</p> </div> <p>Snell at Fig. 3 (annotated).<sup>19</sup></p>

<sup>19</sup> Snell teaches communicating multiple data packets with the ability to “switch on-the-fly between different data rates and/or formats.” Based on this disclosure, a person of ordinary skill in the art would have understood that Snell teaches that a series of packets may be sent that switch from using a second modulation method to using a first modulation method for the payload portion of the data packet. For example, as shown in Figure 3 (annotated), a first packet in Snell comprises a “first sequence” (e.g., PLCP preamble and PLCP header) that is “modulated according to the first modulation method” (e.g., BPSK) where the “first sequence” (e.g., “**SIGNAL**” field in PLCP header) “indicates” (e.g., using “14h”) the modulation type (e.g., QPSK) used for modulating the “second sequence” (e.g., MPDU data). For the first packet, the “**SIGNAL**” field in the PLCP header uses a code (e.g., “14h”) that “indicates” that the MPDU data is modulated “according to the second modulation method” (e.g., QPSK). The “second

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	<p><b>Kamerman<sup>20</sup> discloses reverting from a second modulation method to a first modulation method. See, e.g., Kamerman at 6, 11, 12.</b></p> <p>Kamerman discloses an automatic rate selection scheme for reverting (e.g., falling back) from a “second modulation method” (e.g., QPSK) corresponding to a higher data rate (e.g., 2 Mbit/s) to a “first modulation method” (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet transmissions, for instance, where there is a high load in neighbor cells causing cochannel interference.</p> <p>“Then there is looked to <i>automatic rate control</i> to keep the cochannel interference at a tolerable level.” Kamerman at 6.</p> <p>“IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps. The allowable SNR and CSIR values for reliable transmission of data packets are dependent on the bit rate.” Kamerman at 11.</p> <p>“IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. . . . An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: <i>after unacknowledged packet transmissions the rate falls back</i>, and after a</p>

modulation method” (e.g., QPSK) “is of a different type than the first modulation method” (e.g., BPSK).

Snell’s transceiver then transmits a second packet comprising a “third sequence” ( e.g., PLCP preamble and PLCP header) “transmitted in the first modulation method” (e.g., BPSK) where the “third sequence” (e.g., “SIGNAL” field in PLCP header) “indicates” (e.g., using “0Ah”) the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet. For the second packet, the “SIGNAL” field in the PLCP header uses a code (e.g., “0Ah”) that “indicates” that the MPDU data is modulated using the BPSK modulation method at 1 Mbit/s. This “SIGNAL” thus “indicates that communication” from the transceiver “has reverted to the first modulation method” (e.g., reverted to BPSK modulation). In addition, transmitting the data using the “first modulation method” (e.g., BPSK) results in a data rate of 1 Mbit/s which is lower than transmitting the data using the “second modulation method,” which results in a data rate of 2 Mbit/s.

<sup>20</sup> As explained in Section III.C, a POSITA would have been motivated and found it obvious and straightforward to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (i.e., reverting to the first modulation method) in implementing Snell’s system for communicating data packets modulated according to different modulation methods (as implemented using the teachings of Yamano).

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	<p>number (e.g. 10) of successive correctly acknowledged packet transmissions the bit rate goes up.” Kamerman at 11.</p> <p><i>“At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.”</i> Kamerman at 11.</p> <p><i>“The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference.”</i> Kamerman at 12.</p>

<b>'580 Patent Claim 59</b>	<b>SNQ-1: Combined Disclosure of Snell in View of Yamano and Kamerman</b>
<p>58.[preamble] A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell discloses a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave.</b></p> <p><i>See</i> Element 1.preamble.</p>
<p>[58.A] a transceiver, in the role of the master according to the master/ slave</p>	<p><b>Snell discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See</i> Element 1.A</p>

<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-1: Combined Disclosure of Snell in View of Yamano and Kamerman</b></p>
<p>relationship,</p>	
<p>[58.B] capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,</p>	<p><b>Snell discloses transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.</b></p> <p><i>See Element 1.B.</i></p>
<p>[58.C] and wherein the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>Snell discloses that the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method.</b></p> <p><i>See Elements 1.C, 1.D, 1.F.</i></p>
<p>[58.D] wherein the at least one message is</p>	<p><b>Snell in view of Yamano discloses that at least one message is</b></p>

<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-1: Combined Disclosure of Snell in View of Yamano and Kamerman</b></p>
<p>addressed for an intended destination of the second sequence, and</p>	<p><b>addressed for an intended destination of the second sequence.</b></p> <p><i>See</i> Element 1.E.</p>
<p>[58.E] the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.</p>	<p><b>Snell discloses that the second sequence [is] modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See</i> Element 1.G.</p>
<p>59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</p>	<p><b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</b></p> <p><i>See</i> claims 1, 2.</p>

**D. SNQ-2: Unpatentability of Claims 2 and 59 Under 35 U.S.C. § 103 Over Snell, Harris 4064.4, Harris AN9614, Yamano and Kamerman**

Requesters submit that the combined teachings of Snell (submitted herewith as Exhibit D), Harris 4064.4 (submitted herewith as Exhibit E), Harris AN9614 (submitted herewith as



Exhibit F), Yamano (submitted herewith as Exhibit H), and Kamerman (submitted herewith as Exhibit I) raise a substantial new question of patentability with respect to claims 2 and 59 of the '580 patent, and that claims 2 and 59 of the '580 patent are unpatentable under 35 U.S.C. 103 as obvious over Snell in view of Harris 4064.4, Harris AN9614, Yamano and Kamerman.<sup>21</sup>

A POSITA would have been motivated and found it obvious and straightforward to use Harris 4064.4's teachings of modulating the preamble and header portions of a data packet using DBPSK modulation and modulating the payload portion of the data packet using DBPSK or DQPSK modulation (as indicated by the SIGNAL field in the header portion) to advantageously provide for switching between DBPSK and DQPSK modulation types in implementing an IEEE 802.11 system (*see* Harris 4064.4 at 1, 3) such as disclosed in Snell. Harris 4064.4 is incorporated by reference into Snell (Snell at 5:13-17), both references are directed to the PRISM chipset and HSP 3824 baseband processor (Harris 4064.4 at 1; Snell at 1:47-63, 5:8-17, 5:31-33), and Harris 4064.4 is a publication of Harris Corporation, the same original assignee of Snell. It would have been routine and straightforward for a POSITA to use the teachings of Harris 4064.4 with the teachings of Snell, in light of the foregoing including Snell's express direction to apply the teachings of Harris 4064.4, and further because, in combination, each element (Harris 4064.4's teaching of modulating the preamble and header portions of a data packet using DBPSK modulation and modulating the payload portion of the data packet using DBPSK or DQPSK modulation and Snell's communication system for transmitting data packets modulated using different modulation methods) performs the same function as it would

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<sup>21</sup> Requesters submit that, as set forth in SNQ-1, the Harris 4064.4 and Harris AN9614 references are incorporated by reference into Snell and, therefore, are part of the express disclosure of Snell. To the extent, however, that it is deemed that Harris 4064.4 and Harris AN9614 should be treated as independent references from Snell, Requesters have set forth in SNQ-2 a detailed explanation as to why the Challenged Claims are invalid as obvious based on a combination of Snell, Harris 4064.4, Harris AN9614, Yamano and Kamerman.

separately, yielding nothing more than predictable results. *KSR*, 550 U.S. at 417. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to use Harris 4064.4's teachings in implementing Snell's communication system.

A POSITA would have additionally been motivated and found it obvious and straightforward to use Harris AN9614's teaching of a polled (master/slave) protocol in implementing the communication system taught by Snell (in light of Harris 4064.4). Harris AN9614 is incorporated by reference into Snell (Snell at 5:2-7), both references are directed to the PRISM chipset and HSP3824 baseband processor (Harris AN9614 at 1, 2; Snell at 1:47-63, 5:8-17, 5:31-33), and Harris AN9614 is a publication of Harris Corporation, the same original assignee of Snell. Moreover, AN9614 expressly teaches that it is beneficial to use a polled (master/slave) protocol because "the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives." Harris AN9614 at 3. Polling (master/slave) enables this reduction in power consumption because "the system can be set at its sleep mode most of the time to achieve low power consumption. It only needs to operate at full power consumption during the transmission of a packet or during the expected window for received packets." Harris AN9614 at 3. In addition to Snell's express suggestion to apply Harris AN9614's disclosures, a POSITA would have been motivated to use Harris AN9614's teaching of a polled (master/slave) protocol in implementing Snell's communication system (implemented in light of Harris 4064.4 *see supra*) because a polled (master/slave) communication system advantageously provides a simple protocol that has good determinacy (*e.g.*, a reduction in collisions). It would have been routine for a POSITA to use a polled (master/slave) protocol in

implementing Snell's communication system (as implemented in light of Harris 4064.4), as master/slave communication systems were common and well-known in the art (*see* '580 patent at 3:40-4:50), and thus implementing a polled (master/slave) protocol in Snell's transceiver (which serves as an access point to support communications with multiple other transceivers – Snell at 1:34-46) would involve nothing more than using common and known techniques to improve a similar system in the same way to yield predictable results. *KSR*, 550 U.S. at 416. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to implement a polled (master/slave) protocol in implementing Snell's system (as implemented in light of Harris 4064.4).

It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A POSITA would have been motivated and found it obvious and straightforward to use Yamano's teaching of including a destination address in the data packet in implementing Snell's teachings of a communication system for transmitting data packets (as implemented in light of Harris 4064.4 and Harris AN9614) to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate. Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (*see, e.g.*, Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates (*see, e.g.*, Snell at 2:15-17, 6:52-59; Yamano at 19:54-56). Yamano expressly teaches that including a destination address in the preamble portion of the data packet, which precedes the data portion, will advantageously reduce processing requirements of receiving devices because

the receiving device can filter out packets which it does not need to demodulate. Yamano at 20:54-59 (“When the preamble in a burst-mode packet *includes the destination address of the packet*, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.”). In addition, Snell teaches structuring its data packet to include a preamble, header, and MPDU data portion (*see, e.g.*, Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3), and Yamano teaches structuring its data packet to also include a preamble and data portion, and to place the destination address in the preamble portion (Yamano at 19:63-20:7, Fig. 8). It would have been routine and straightforward for a POSITA to include a destination address in the data packet, as taught by Yamano, in implementing Snell’s system for transmitting data packets between transceivers (as implemented in light of Harris 4064.4 and Harris AN9614), as Snell teaches that its data packet already includes a preamble portion—and in combination, each element (Yamano’s teaching of placing a destination address in the preamble and Snell’s teaching of a system for communicating data packets modulated according to different modulation methods between transceivers) performs the same function as it would separately, yielding nothing more than predictable results. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to use Yamano’s advantageous teachings of including a destination address in the data packet in implementing Snell’s communication system (as implemented in light of Harris 4064.4 and Harris AN9614).

It was also well-known in the art, as demonstrated by Kamerman, to transmit a first data packet where the data is modulated using a second modulation method, such as QPSK

(corresponding to a higher data transfer rate), and to next transmit a second data packet where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (*i.e.*, to revert to the first modulation method). A POSITA would have been motivated and found it obvious and straightforward to use Kamerman's teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell's system for communicating data packets modulated according to different modulation methods (implemented using the teachings of Harris 4064.4, Harris AN9614, and Yamano, as discussed above) to advantageously maximize the data transfer rate and adapt to changing channel conditions (as also taught by Kamerman). In particular, Kamerman expressly teaches that it is beneficial to transmit the data of a first data packet using a second modulation method corresponding to a higher data transfer rate (*e.g.*, QPSK modulation at 2 mbps) during lower load conditions to maximize the data transfer rate during lower load conditions when the connection is more reliable and to next transmit the data of a second data packet using a first modulation method corresponding to a lower data transfer rate (*e.g.*, BPSK modulation at 1 mbps) (*i.e.*, falling back) during higher load conditions when a more robust signal is needed due to "mutilation of transmissions by interference." *See* Kamerman at 6 ("Then there is looked to *automatic rate control* to keep the cochannel interference at a tolerable level."), 11 ("The basic rate adaptation scheme could be: *after unacknowledged packet transmissions the rate falls back*, and after a number (*e.g.* 10) of successive correctly acknowledged packet transmissions the bit rate goes up."), 11 ("At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, *will be done at fallback rates due to mutilation of transmissions by interference.* In

practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. *Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells ... there will be switched to fall back rates in the outer part of the cell.*”), 12 (“This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference. Therefore it gives adaptation of the bit rate to the interference as it occurs in time depending on positions as load.”).

Moreover, Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard available at that time. *See, e.g.,* Snell at 1:47-63 (“The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 *which is compatible with the proposed IEEE 802.11 standard...*”), 5:31-33 (“The present invention provides an extension of the PRISM 1 product from *1 Mbit/s BPSK and 2 Mbit/s QPSK...*”); Kamerman at 6 (“This paper considers the critical parameters for *wireless LANs that operate conform to the IEEE 802.11 DSSS (direct sequence spread spectrum) standard...*”), 11 (“IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps.”), 11 (“IEEE 802.11 DS specifies BPSK and QPSK...”). It would have been routine and straightforward for a POSITA to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell’s system (implemented in light of Harris 4064.4, Harris AN9614, and Yamano) for communicating data packets modulated according to different modulation methods, as both Snell and Kamerman are directed to IEEE 802.11 systems

utilizing QPSK and BPSK modulation methods corresponding, respectively, to higher and lower data transfer rates—and in combination, each element (Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method and Snell’s system for communicating data packets modulated according to different modulation methods) performs the same function as it would separately, yielding nothing more than predictable results. *KSR*, 550 U.S. at 417. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to implement Kamerman’s advantageous teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell’s system (implemented in light of Harris 4064.4, Harris AN9614, and Yamano) for communicating data packets modulated according to different modulation methods.

The combination of Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman shows or renders obvious each and every element of the inventions of claims 2 and 59. The relevant teachings of the combination of Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman were not considered during the prior examination of the ‘580 patent and a reasonable Examiner would consider these disclosures important in determining whether or not the claims are patentable.

Therefore, the combination of Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman raises a substantial new question of patentability with respect to claims 2 and 59 of

the '580 patent (SNQ-2) and presents new technological teachings not previously considered in connection with prosecution of the '580 patent. MPEP § 2216. Accordingly, Requesters propose that claims 2 and 59 should be rejected under § 103 as rendered obvious by Snell in view of Harris 4064.4, Harris AN9614, Yamano, and Kamerman.

The following claim chart demonstrates, in further detail, how each limitation is, at a minimum, obvious in light of Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman.

'580 Patent Claim 2	SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman
<p>1. [preamble] A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell in view of Harris AN9614 discloses a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave. See, e.g., Snell at 1:34-46, 1:47-50, 1:55-57, 2:27-30, 4:42-47, 5:18-21; Harris AN9614 at 3.</b></p> <p>For example, Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN).</p> <p>“In a typical WLAN, <i>an access point provided by a transceiver</i>, that is, a combination transmitter and receiver, connects to the wired network from a fixed location. Accordingly, the access transceiver receives, buffers, and transmits data between the WLAN and the wired network. <i>A single access transceiver can support a small group of collocated users within a range of less than about one hundred to several hundred feet. The end users connect to the WLAN through transceivers</i> which are typically implemented as PC cards in a notebook computer, or ISA or PCI cards for desktop computers. Of course the transceiver may be integrated with any device, such as a hand-held computer.” Snell at 1:34-46.</p> <p>“Like the HSP3824 baseband processor, the high data rate baseband processor 40 of the invention contains all of the functions necessary for a full or half duplex packet baseband <i>transceiver</i>.” Snell at 5:18-21.</p> <p>“The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, <i>packet communications</i> at the 2.4 to 2.5 GHz ISM radio band.” Snell at 1:55-57.</p>



<b>'580 Patent Claim 2</b>	<b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b>
	<p><i>See also, e.g.</i>, Snell at 2:27-30 (“It is another object of the invention to provide a <i>spread spectrum transceiver</i> and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.”); Snell at 1:47-50 (“The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard.”); Snell at 4:42-47 (“Referring to FIG. 1, a <i>wireless transceiver 30</i> in accordance with the invention is first described. The <i>transceiver 30 may be readily used for WLAN applications</i> in the 2.4 GHZ ISM band in accordance with the proposed IEEE 802.11 standard. Those of skill in the art will readily recognize other applications for the transceiver 30 as well.”).</p> <p>Snell incorporates by reference Harris AN9614,<sup>22</sup> which discloses that the communications between transceivers can operate according to a polled (i.e., master/slave) protocol.<sup>23</sup></p> <p>“[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.” Harris AN9614 at 3.</p>
[1.A] a transceiver, in the role of the master according to the master/ slave relationship,	<p><b>Snell in view of Harris AN9614 discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See</i> Element 1.preamble.</p>

<sup>22</sup> *See supra* n.21; As explained in Section III.D, a POSITA would have been motivated and found it obvious and straightforward use Harris AN9614’s teaching of a polled (master/slave) protocol in implementing the communication system taught by Snell (in light of Harris 4064.4).

<sup>23</sup> A polled protocol is a master/slave protocol, as confirmed by the ‘580 patent. ‘580 patent at 4:6-9. *See also* IPR2014-00518, Pap. 47 at 15 (“In [a polling] protocol, a centrally assigned master periodically sends a polling message to the slave nodes, giving them explicit permission to transmit on the network.”); ‘580 Prosecution History at 404; IPR2014-00518, Exhibit 1220 (Goodman Declaration) ¶103.

'580 Patent Claim 2	SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman
<p>[1.B] for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,</p>	<p><b>Snell discloses a transceiver for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.</b><sup>24</sup> <i>See, e.g., Snell at Abstract, 1:58-61, 2:56-59, 2:61-3:5, 6:64-66, 7:6-8, Figs. 2, 3, 5; Harris 4064.4 at 14-16.</i></p> <p>For example, Snell discloses that transmissions are modulated using a “first modulation method” (<i>e.g.</i>, BPSK) and a “second modulation method” (<i>e.g.</i>, QPSK) that is of a different “type” than the “first modulation method.”</p> <p>“The modulator preferably comprises means for operating <i>in one of a bi-phase PSK (BPSK) modulation mode</i> at a first data rate defining a first format, and <i>a quadrature PSK (QPSK) mode</i> at a second data rate defining a second format.” Snell at 2:56-59.</p> <p>“In particular, the HSP3824 baseband processor manufactured by Harris Corporation <i>employs quadrature or bi-phase phase shift keying (QPSK or BPSK) modulation schemes.</i>” Snell at 1:58-61.</p> <p><i>See also, e.g., Snell at Abstract</i> (“The modulator and demodulator are each preferably operable <i>in one of a bi-phase PSK (BPSK) mode</i> at a first data rate and <i>a quadrature PSK (QPSK) mode</i> at a second data rate. These formats may also be switched on-the-fly in the demodulator.”), 2:15-17 (“Moreover, a WLAN application, for example, may require a change between <i>BPSK and QPSK</i> during operation, that is, on-the-fly.”).</p> <p>Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK, which is “of a different type than the first modulation method,” and alternatively describes that the “first modulation method” may be differential BPSK (“DBPSK”) and that the “second modulation method” may be differential QPSK (“DQPSK”), which is also “of a different type than the first modulation method.”</p> <p>Thus, Snell alternatively discloses modulating the PLCP preamble and</p>

<sup>24</sup> In IPR2014-00518, the Board construed the limitation “different ‘types’ of modulation methods” in ‘580 claims 1 and 58 to mean “modulation methods that are incompatible with each other” and found that “two modulation methods that are based on varying the same one of the frequency, amplitude, or phase of the carrier wave may be different ‘types’ of modulation methods.” IPR2014-00518, Pap. 47 (Final Written Decision) at 12. The Board also found that the “DQPSK ... modulation method[] [is] incompatible with DBPSK modulation.” *Id.* at 18.

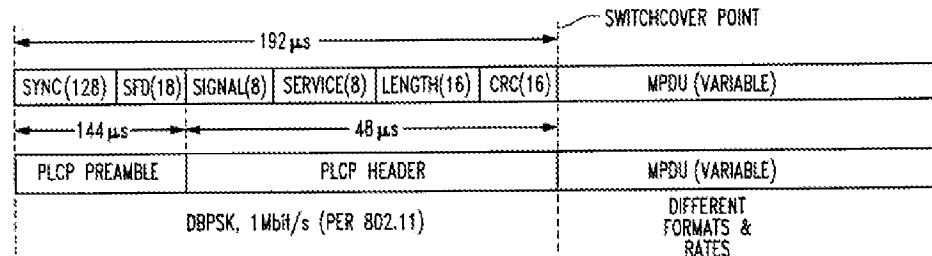
**'580 Patent Claim 2**      **SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman**

PLCP header using DBPSK modulation, and modulating the MPDU data using DBPSK or DQPSK modulation.

“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.” Snell at 6:64-66.

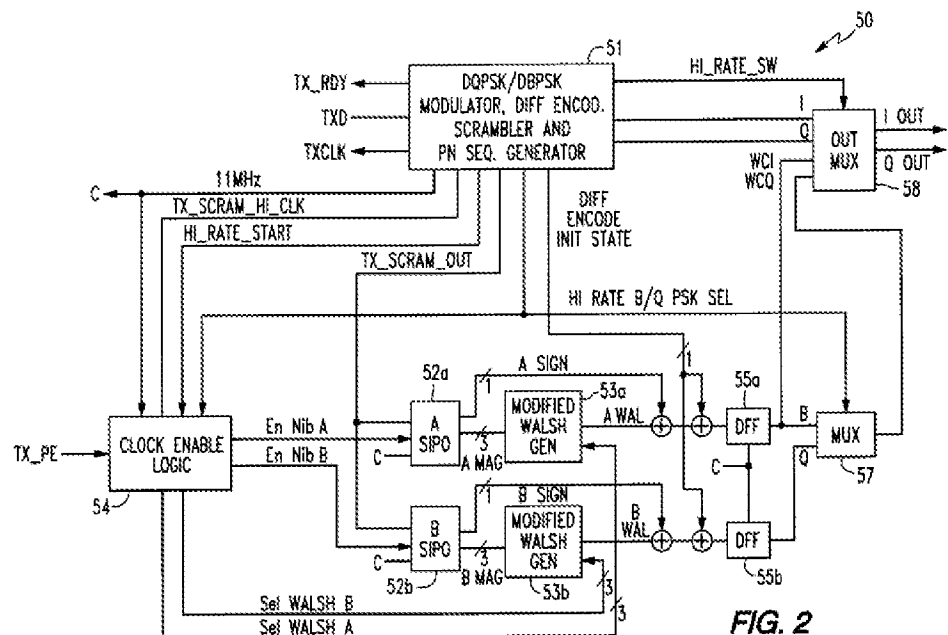
“The modulator may also preferably include header modulator means for modulating data packets to include a header at a predetermined modulation and a third data rate defining a third format.... The third format is preferably differential BPSK.” Snell at 2:61-3:5.

“The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding.” Snell at 7:6-8.



**FIG. 3**

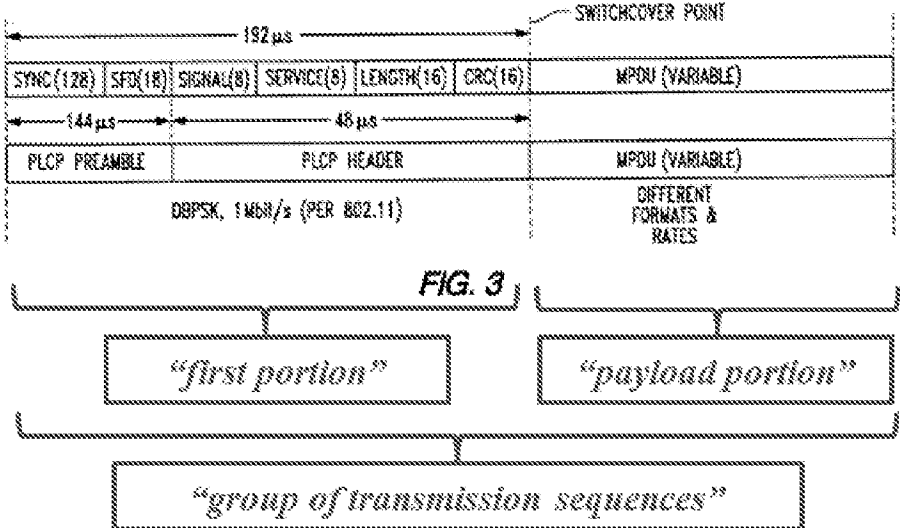
Snell at Fig. 3.

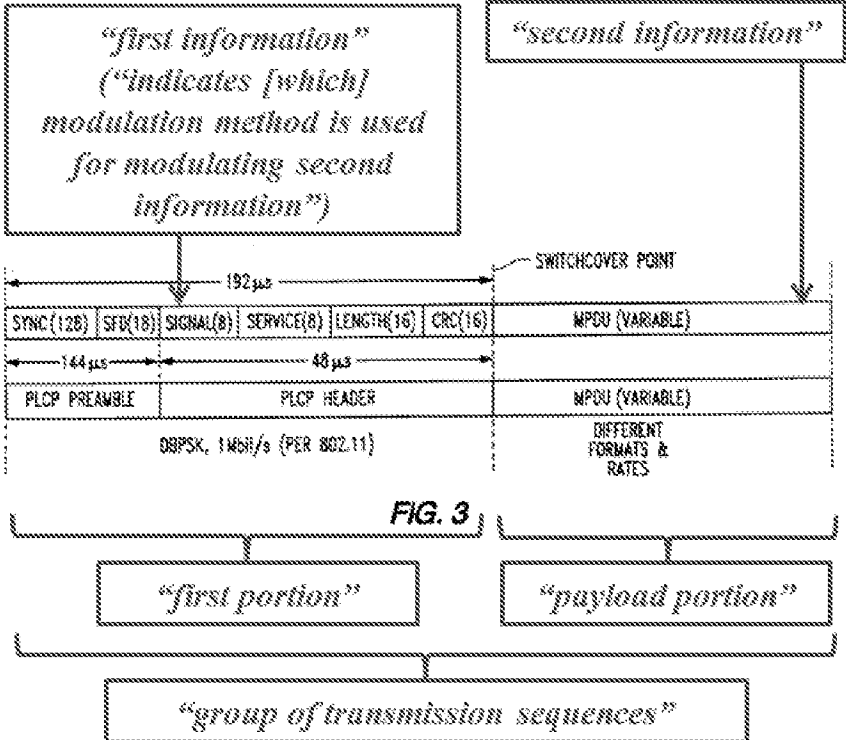


**FIG. 2**

'580 Patent Claim 2	SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman
	<p>Snell at Fig. 2.</p> <p style="text-align: center;"><b>FIG. 5</b></p> <p>Snell at Fig. 5.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>25</sup> which discloses:</p> <p>“The preamble and header are always transmitted as <i>DBPSK</i> waveforms while the data packets can be configured to be <i>either DBPSK or DQPSK</i>.” Harris 4064.4 at 14.</p> <p>“The HSP3824 transmitter is designed as a Direct Sequence Spread Spectrum <i>DBPSK/DQPSK modulator</i>.” Harris 4064.4 at 14.</p> <p>“The modulator is capable of switching rate automatically in the case where the preamble and header information are <i>DBPSK</i> modulated, and the data is <i>DQPSK</i> modulated.” Harris 4064.4 at 14.</p> <p><i>See also, e.g.,</i> Harris 4064.4 at 15 (“The preamble is always transmitted as a <i>DBPSK</i> waveform with a programmable length of up to 256 symbols long.”); Harris 4064.4 at 15 (“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as <i>DBPSK</i> or</p>

<sup>25</sup> See *supra* n.21. As explained in Section III.D, a POSITA would have been motivated and found it obvious and straightforward to use Harris 4064.4’s teachings of modulating the preamble and header portions of a data packet using *DBPSK* modulation and modulating the payload portion of the data packet using *DBPSK* or *DQPSK* modulation in implementing an IEEE 802.11 system such as disclosed in Snell.

<p>'580 Patent Claim 2</p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
	<p><i>DQPSK</i>. In mode 3 the HSP3824 receiver <i>looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields.</i>"); Harris 4064.4 at 16 ("Mode 3 - In this mode the preamble is programmable up to 256 bits (all 1's). The header in this mode is using all available fields. In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet.").</p>
<p>[1.C] wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion</p>	<p><b>Snell discloses each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion. See, e.g., Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3.</b></p> <p>For example, Snell discloses transmitting a group of transmission sequences structured with a "first portion" including the PLCP preamble and PLCP header and a "payload portion" including the MPDU data (as depicted in Figure 3 below)</p>  <p><b>FIG. 3</b></p> <p>Snell at Fig. 3 (annotated).</p> <p>"The <i>header</i> may always be BPSK." Snell at 6:35-36.</p> <p>"The <i>PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff</p>

<p>'580 Patent Claim 2</p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
	<p>encoded, scrambled and spread with an 11 chip Barker.” Snell at 6:64-66.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p>
<p>[1.D] wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion,</p>	<p><b>Snell discloses that first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion. See, e.g., 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14; Harris 4064.4 at 15-16, Fig. 10.</b></p> <p>For example, Snell discloses that the “<b>SIGNAL</b>” in the PLCP Header indicates (e.g., using “<b>OAh</b>,” “<b>14h</b>,” ...) the modulation type (e.g., BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion.</p>  <p><b>FIG. 3</b></p> <p>“first information” (“indicates [which] modulation method is used for modulating second information”)</p> <p>“second information”</p> <p>SWITCHOVER POINT</p> <p>192 μs</p> <p>144 μs</p> <p>48 μs</p> <p>SYNC(128)   SFD(18)   SIGNAL(8)   SERVICE(8)   LENGTH(16)   CRC(16)</p> <p>MPDU (VARIABLE)</p> <p>PLCP PREAMBLE   PLCP HEADER</p> <p>MPDU (VARIABLE)</p> <p>DBPSK, 1 Mb/s (PER 802.11)</p> <p>DIFFERENT FORMATS &amp; RATES</p> <p>“first portion”</p> <p>“payload portion”</p> <p>“group of transmission sequences”</p>

'580 Patent Claim 2	SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman								
	<p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header</i> may always be BPSK.” Snell at 6:35-36.</p> <p>“<i>The PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.” Snell at 6:64-66.</p> <p>“Now relating to the <i>PLCP header 91</i>, the <i>SIGNAL</i> is:</p> <hr/> <table> <tbody> <tr> <td>0Ah</td> <td>1 Mbit/s BPSK,</td> </tr> <tr> <td>14h</td> <td>2 Mbit/s QPSK,</td> </tr> <tr> <td>37h</td> <td>5.5 Mbit/s BPSK, and</td> </tr> <tr> <td>6Eh</td> <td>11 Mbit/s QPSK.</td> </tr> </tbody> </table> <hr/> <p>”</p> <p>Snell at 6:52-59.</p> <p>“<i>SIGNAL</i> is indicated by 2 control bits and then formatted as described.” Snell at 7:1-2.</p> <p>“<i>MPDU</i> is serially provided by Interface 80 and is the <i>variable data</i> scrambled for normal operation. The reference phase for the first symbol of the <i>MPDU</i> is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the <i>MPDU</i>. <i>The variable data may be modulated and demodulated in different formats</i> than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>26</sup> which discloses:</p> <p>“<i>Signal Field (8 Bits)</i> - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields.” Harris 4064.4 at 15.</p> <p>“In mode 3 the <i>signal field</i> defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are</p>	0Ah	1 Mbit/s BPSK,	14h	2 Mbit/s QPSK,	37h	5.5 Mbit/s BPSK, and	6Eh	11 Mbit/s QPSK.
0Ah	1 Mbit/s BPSK,								
14h	2 Mbit/s QPSK,								
37h	5.5 Mbit/s BPSK, and								
6Eh	11 Mbit/s QPSK.								

<sup>26</sup> See *supra* n.25.

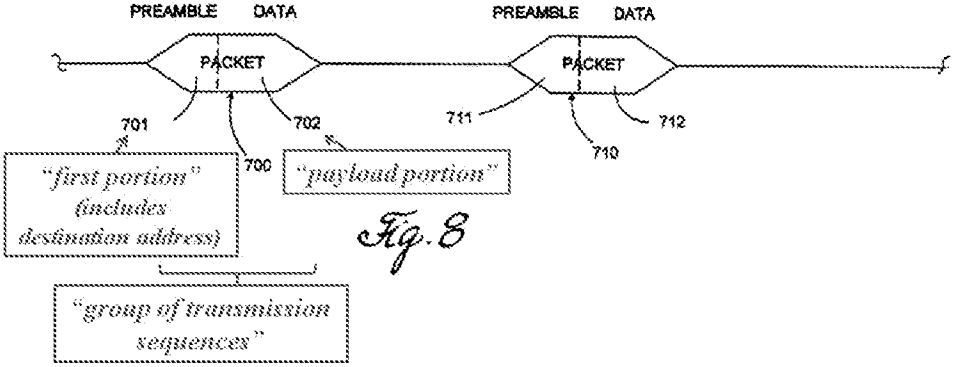
<p>'580 Patent Claim 2</p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
	<p>always DBPSK the modulation definition applies only for the data packet.” Harris 4064.4 at 16.</p> <p><i>See also, e.g.,</i> Harris 4064.4 at FIGURE 10.</p>
<p>[1.E] wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and</p>	<p><b>Snell in view of Yamano discloses that at least one group of transmission sequences is addressed for an intended destination of the payload portion.</b> <i>See, e.g.,</i> 6:35-36, 6:64-66, 7:5-14, Fig. 3; Harris 4064.4 at 14.</p> <p>For example, Snell discloses that the transceiver transmits a group of transmission sequences (including a PLCP Preamble and PLCP header, and MPDU data) to another transceiver.</p> <div> </div> <p><b>FIG. 3</b></p> <p>“first portion”</p> <p>“payload portion”</p> <p>“group of transmission sequences”</p> <p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header</i> may always be BPSK.” Snell at 6:35-36.</p> <p>“The <i>PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.” Snell at 6:64-66.</p> <p>“<i>MPDU</i> is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by</p>

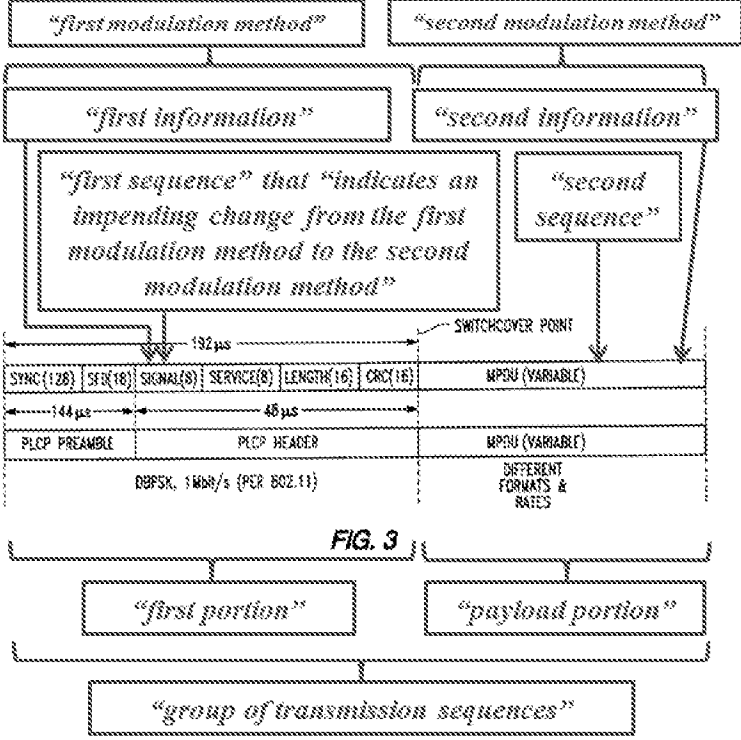


'580 Patent Claim 2	SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman
	<p>the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>27</sup> which discloses:</p> <p>“The <i>preamble and header</i> are always transmitted as DBPSK waveforms while the <i>data packets</i> can be configured to be either DBPSK or DQPSK.” Harris 4064.4 at 14.</p> <p><b>Yamano<sup>28</sup> discloses at least one group of transmission sequences is addressed for an intended destination of the payload portion. See, e.g., Yamano at 19:63-64, 20:1-7, 20:54-59, Fig. 8.</b></p> <p>For example, Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.”</p> <p>“<i>Packet 700</i> includes a <i>preamble 701</i> and a <i>main body 702</i>.” Yamano at 19:63-64.</p> <p>“For example, <i>preamble 701</i> can include information which identifies: (1) a version or type field for the preamble, (2) <i>packet source and destination addresses</i>, (3) the line code (i.e., the modem protocol being used), (4) the data rate, (5) error control parameters, (6) packet length and (7) a timing value for the expected reception slot of a subsequent packet.” Yamano at 20:1-7 (emphasis added).</p>

<sup>27</sup> See *supra* n.21.

<sup>28</sup> As explained in Section III.D, a POSITA would have been motivated and found it obvious and straightforward to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets (as implemented in light of Harris 4064.4 and Harris AN9614).

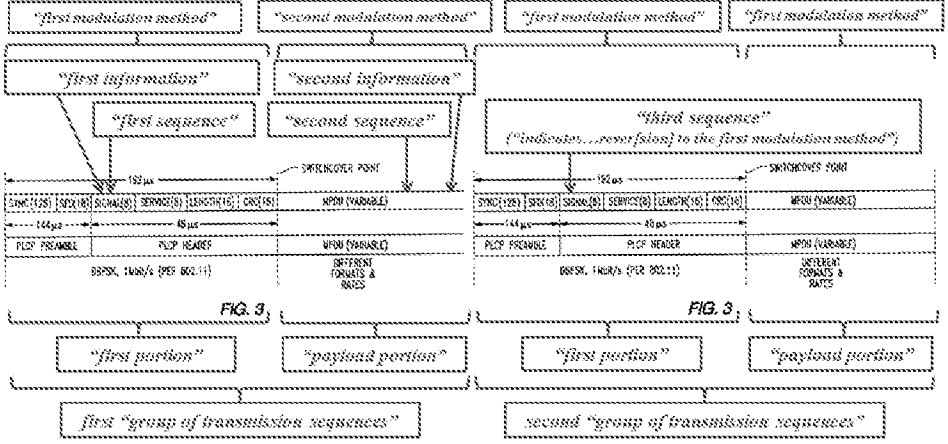
<p>'580 Patent Claim 2</p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
	 <p>Yamano at Figure 8 (annotated).</p> <p>“When the preamble in a burst-mode packet <i>includes the destination address of the packet</i>, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.” Yamano at 20:54-59.</p>
<p>[1.F] wherein for the at least one group of transmission sequences: the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>Snell in view of Harris 4064.4 discloses for the at least one group of transmission sequences, the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method. See, e.g., Snell at 2:61-3:5, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Figs. 2, 3, 5; Harris 4064.4 at 15-16, Fig. 10.</b></p> <p>For example, Snell discloses that the “first information” (<i>e.g.</i>, PLCP preamble and PLCP header) comprises a “first sequence (<i>e.g.</i>, “<b>SIGNAL</b>” field in PLCP header) “modulated according to a first modulation method” (<i>e.g.</i>, BPSK). The “<b>SIGNAL</b>” field “indicates” (<i>e.g.</i>, using “14h”) “an impending change from the first modulation method” (<i>e.g.</i>, BPSK) “to the second modulation method” (<i>e.g.</i>, QPSK).</p>

<p>'580 Patent Claim 2</p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>								
	 <p>The diagram, labeled FIG. 3, illustrates a transmission sequence. At the top, two modulation methods are shown: "first modulation method" and "second modulation method". Below these are "first information" and "second information". A "first sequence" is described as indicating an impending change from the first to the second modulation method, while a "second sequence" is shown separately. A timing diagram below shows a 192 μs interval for the first sequence and a 45 μs interval for the second sequence, with a "SWITCHOVER POINT" between them. The timing diagram is divided into a 144 μs "PLCP PREAMBLE" and a 48 μs "PLCP HEADER". The PLCP header contains fields: SYNC (128), SF (16), SIGNAL (8), SERVICE (8), LENGTH (16), and CRC (16). Following the header is the "MPDU (VARIABLE)". The preamble is modulated with "BPSK, 1Mbit/s (PER ECZ.11)" and the MPDU with "DIFFERENT FORMATS &amp; RATES". The entire sequence is labeled "FIG. 3" and is further divided into a "first portion" and a "payload portion", which together form a "group of transmission sequences".</p> <p>Snell at Fig. 3 (annotated).</p> <p>“The header may always be BPSK.” Snell at 6:35-36.</p> <p>“Now relating to the PLCP header 91, the SIGNAL is:</p> <table border="1"> <tr> <td>0Ah</td> <td>1 Mbit/s BPSK,</td> </tr> <tr> <td>14h</td> <td>2 Mbit/S QPSK,</td> </tr> <tr> <td>37h</td> <td>5.5 Mbit/s BPSK, and</td> </tr> <tr> <td>6Eh</td> <td>11 Mbit/s QPSK.</td> </tr> </table> <p>”</p> <p>Snell at 6:52-59.</p> <p>“SIGNAL is indicated by 2 control bits and then formatted as described.” Snell at 7:1-2.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion</p>	0Ah	1 Mbit/s BPSK,	14h	2 Mbit/S QPSK,	37h	5.5 Mbit/s BPSK, and	6Eh	11 Mbit/s QPSK.
0Ah	1 Mbit/s BPSK,								
14h	2 Mbit/S QPSK,								
37h	5.5 Mbit/s BPSK, and								
6Eh	11 Mbit/s QPSK.								

<b>'580 Patent Claim 2</b>	<b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b>
	<p>to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK, which is of a different “type” than the first modulation method, and alternatively describes that the “first modulation method” may be differential BPSK (“DBPSK”) and that the “second modulation method” may be differential QPSK (“DQPSK”), which is also of a different “type” than the first modulation method.</p> <p>Thus, Snell alternatively discloses that the PLCP preamble and PLCP header includes a “SIGNAL” field that may be modulated according to a “first modulation method” (e.g., <u>DBPSK</u>) and “indicates an impending change from the first modulation method” (e.g., <u>DBPSK</u>) “to the second modulation method” (e.g., <u>DQPSK</u>).</p> <p>“<i>The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.</i>” Snell at 6:64-66.</p> <p>“The modulator may also preferably include header modulator means for modulating data packets to include <i>a header at a predetermined modulation and a third data rate defining a third format. . . . The third format is preferably differential BPSK.</i>” Snell at 2:61-3:5.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. <i>The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding.</i>” Snell at 7:5-8. <i>See also, e.g.,</i> Snell at Figs. 2, 3, 5.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>29</sup> which discloses:</p> <p>“<i>Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields.</i>” Harris 4064.4 at 15.</p> <p>“<i>In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is</i></p>

<sup>29</sup> See *supra* n.25.

<b>'580 Patent Claim 2</b>	<b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b>
	<p><i>defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet.</i>" Harris 4064.4 at 16.</p> <p><i>See also, e.g., Harris 4064.4 at FIGURE 10.</i></p>
<p>[1.G] the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</p>	<p><b>Snell discloses that the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See Element 1.F.</i></p>
<p>2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</p>	<p><i>See claim 1. Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. See, e.g., Snell at 1:55-57, 2:27-30, 2:61-63, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Fig. 3; Harris 4064.4 at 15-16, Fig. 10.; Kamerman at 6, 11, 12.</i></p> <p><i>For example, Snell discloses a transceiver for transmitting data packets to another transceiver, where the communication may switch on-the-fly between different types of modulation methods.</i></p> <p><i>"The modulator may also preferably include header modulator means for modulating data packets." Snell at 2:61-63.</i></p> <p><i>"The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, packet communications at the 2.4 to 2.5 GHz ISM radio band." Snell at 1:55-57.</i></p> <p><i>"It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats." Snell at 2:27-30.</i></p>

<b>'580 Patent Claim 2</b>	<b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b>
	<p>“The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and <i>while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.</i>” Snell at 7:10-14.</p> <p>Snell also discloses that the “SIGNAL” field in the header of the packet is modulated in a first modulation method and indicates the modulation type (e.g., BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion. <i>See Element 1.D.</i></p>  <p>Snell at Fig. 3 (annotated).<sup>30</sup></p>

<sup>30</sup> Snell teaches communicating multiple data packets with the ability to “switch on-the-fly between different data rates and/or formats.” Based on this disclosure, a person of ordinary skill in the art would have understood that Snell teaches that a series of packets may be sent that switch from using a second modulation method to using a first modulation method for the payload portion of the data packet. For example, as shown in Figure 3 (annotated), a first packet in Snell comprises a “first sequence” (e.g., PLCP preamble and PLCP header) that is “modulated according to the first modulation method” (e.g., BPSK) where the “first sequence” (e.g., “SIGNAL” field in PLCP header) “indicates” (e.g., using “14h”) the modulation type (e.g., QPSK) used for modulating the “second sequence” (e.g., MPDU data). For the first packet, the “SIGNAL” field in the PLCP header uses a code (e.g., “14h”) that “indicates” that the MPDU data is modulated “according to the second modulation method” (e.g., QPSK). The “second modulation method” (e.g., QPSK) “is of a different type than the first modulation method” (e.g., BPSK).

Snell’s transceiver then transmits a second packet comprising a “third sequence” ( e.g., PLCP preamble and PLCP header) “transmitted in the first modulation method” (e.g., BPSK) where the “third sequence” (e.g., “SIGNAL” field in PLCP header) “indicates” (e.g., using “0Ah”) the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet. For the

<b>'580 Patent Claim 2</b>	<b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b>
	<p><b>Kamerman<sup>31</sup> discloses reverting from a second modulation method to a first modulation method. See, e.g., Kamerman at 6, 11, 12.</b></p> <p>Kamerman discloses an automatic rate selection scheme for reverting (<i>e.g.</i>, falling back) from a “second modulation method” (<i>e.g.</i>, QPSK) corresponding to a higher data rate (<i>e.g.</i>, 2 Mbit/s) to a “first modulation method” (<i>e.g.</i>, BPSK) corresponding to a lower data rate (<i>e.g.</i>, 1 Mbit/s) after unacknowledged packet transmissions, for instance, where there is a high load in neighbor cells causing cochannel interference.</p> <p>“Then there is looked to <i>automatic rate control</i> to keep the cochannel interference at a tolerable level.” Kamerman at 6.</p> <p>“IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps. The allowable SNR and CSIR values for reliable transmission of data packets are dependent on the bit rate.” Kamerman at 11.</p> <p>“IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. . . . An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: <i>after unacknowledged packet transmissions the rate falls back</i>, and after a number (<i>e.g.</i> 10) of successive correctly acknowledged packet transmissions the bit rate goes up.” Kamerman at 11.</p> <p>“<i>At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at</i></p>

second packet, the “SIGNAL” field in the PLCP header uses a code (*e.g.*, “0Ah”) that “indicates” that the MPDU data is modulated using the BPSK modulation method at 1 Mbit/s. This “SIGNAL” thus “indicates that communication” from the transceiver “has reverted to the first modulation method” (*e.g.*, reverted to BPSK modulation). In addition, transmitting the data using the “first modulation method” (*e.g.*, BPSK) results in a data rate of 1 Mbit/s which is lower than transmitting the data using the “second modulation method,” which results in a data rate of 2 Mbit/s.

<sup>31</sup> As explained in Section III.D, a POSITA would have been motivated and found it obvious and straightforward to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell’s system for communicating data packets modulated according to different modulation methods (as implemented using the teachings of Harris 4064.4, Harris AN9614, and Yamano).

<p><b>'580 Patent Claim 2</b></p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
	<p><i>the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference.</i> In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. <i>Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.</i>" Kamerman at 11.</p> <p>"The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and <i>fall back at strong cochannel interference.</i>" Kamerman at 12.</p>

<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
<p>58.[preamble] A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell in view of Harris AN9614 discloses a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave.</b></p> <p><i>See Element 1.preamble.</i></p>
<p>[58.A] a transceiver, in the role of the master according to the master/ slave relationship,</p>	<p><b>Snell in view of Harris AN9614 discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See Element 1.A</i></p>
<p>[58.B] capable of transmitting using at</p>	<p><b>Snell discloses transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods</b></p>



<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
<p>least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,</p>	<p><b>comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.</b></p> <p><i>See Element 1.B.</i></p>
<p>[58.C] and wherein the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>Snell in view of Harris 4064.4 discloses that the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method.</b></p> <p><i>See Elements 1.C, 1.D, 1.F.</i></p>
<p>[58.D] wherein the at least one message is addressed for an intended destination of the second</p>	<p><b>Snell in view of Yamano discloses that at least one message is addressed for an intended destination of the second sequence.</b></p> <p><i>See Element 1.E.</i></p>

<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-2: Combined Disclosure of Snell in View of Harris 4064.4, Harris AN9614, Yamano, and Kamerman</b></p>
<p>sequence, and</p>	
<p>[58.E] the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.</p>	<p><b>Snell discloses that the second sequence [is] modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See Element 1.G.</i></p>
<p>59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</p>	<p><b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</b></p> <p><i>See claims 1, 2.</i></p>

**E. SNQ-3: Unpatentability of Claims 2 and 59 Under 35 U.S.C. § 103 Over Snell, Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman**

Requesters submit that the combined teachings of Snell (submitted herewith as Exhibit D), Harris 4064.4 (submitted herewith as Exhibit E), the Admitted Prior Art ('580 patent at 3:40-4:50, Figs. 1, 2), Upender (submitted herewith as Exhibit G), Yamano (submitted herewith as

Exhibit H), and Kamerman (submitted herewith as Exhibit I) raise a substantial new question of patentability with respect to claims 2 and 59 of the '580 patent, and that claims 2 and 59 of the '580 patent are unpatentable under 35 U.S.C. 103 as obvious over Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman.<sup>32</sup>

A POSITA would have been motivated and found it obvious and straightforward to use Harris 4064.4's teachings of modulating the preamble and header portions of a data packet using DBPSK modulation and modulating the payload portion of the data packet using DBPSK or DQPSK modulation (as indicated by the SIGNAL field in the header portion) to advantageously provide for switching between DBPSK and DQPSK modulation types in implementing an IEEE 802.11 system (*see* Harris 4064.4 at 1, 3) such as disclosed in Snell. Harris 4064.4 is incorporated by reference into Snell (Snell at 5:13-17), both references are directed to the PRISM chipset and HSP 3824 baseband processor (Harris 4064.4 at 1; Snell at 1:47-63, 5:8-17, 5:31-33), and Harris 4064.4 is a publication of Harris Corporation, the same original assignee of Snell. It would have been routine and straightforward for a POSITA to use the teachings of Harris 4064.4 with the teachings of Snell, in light of the foregoing including Snell's express direction to apply the teachings of Harris 4064.4, and further because, in combination, each element (Harris 4064.4's teaching of modulating the preamble and header portions of a data packet using DBPSK modulation and modulating the payload portion of the data packet using DBPSK or DQPSK modulation and Snell's communication system for transmitting data packets modulated using different modulation methods) performs the same function as it would

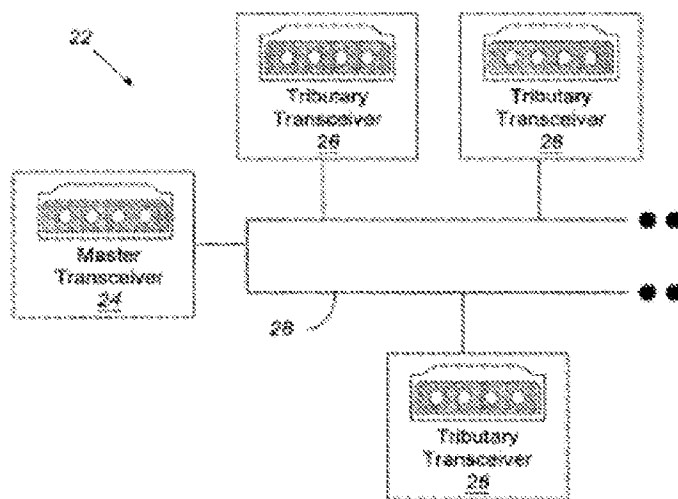
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<sup>32</sup> Requesters submit that, as set forth in SNQ-1, the Harris 4064.4 reference is incorporated by reference into Snell and, therefore, is part of the express disclosure of Snell. To the extent, however, that it is deemed that Harris 4064.4 should be treated as independent references from Snell, Requesters have set forth in SNQ-3 a detailed explanation as to why the Challenged Claims are invalid as obvious based on a combination of Snell, Harris 4064.4, the Admitted Prior Art, Upender, Yamano and Kamerman.

separately, yielding nothing more than predictable results. *KSR*, 550 U.S. at 417. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to use Harris 4064.4's teachings in implementing Snell's communication system.

A POSITA would have been motivated and found it obvious and straightforward to use the Applicant's Admitted Prior Art of a master/slave communication system (*see* '580 patent at 3:40-4:50, Figs. 1, 2) in implementing Snell's communication system (as implemented in light of Harris 4064.4), because a polled (master/slave) communication system was a popular communication protocol with recognized benefits prior to the earliest claimed priority date. Snell is in the same field of art as the Admitted Prior Art, with both relating to a communication system among transceivers. *See, e.g.*, Snell at 1:34-46; Harris AN9614 at 3 (*see also* Snell at 5:2-7); '580 patent at 3:40-44. Snell further incorporates by reference Harris AN9614 (Snell at 5:2-7), which is an application note for the Harris PRISM chipset and HSP3824 baseband processor described in Snell. Harris AN9614 at 1 ("Using the *PRISM*<sup>TM</sup> Chip Set..."), 2 ("The *HSP3824* performs the baseband demodulation function."); Snell at 5:30-32 ("The present invention provides an extension of the *PRISM 1* product ..."), 5:11-13 ("The conventional Harris *PRISM 1* chip set includes a low data rate DSS baseband processor available under the designation *HSP3824*). Harris AN9614 expressly teaches that the communications between Snell's transceivers may operate according to a "polled" (master/slave) protocol. *See, e.g.*, Harris AN9614 ("the controller can keep adequate time to operate either a *polled* or time allocated *scheme*."). Similarly, the admitted prior art in the '580 patent also describes using a "polled multipoint communication protocol," which is a master/tributary (*i.e.*, master/slave)

system. '580 patent at 4:6-9. As shown in Fig. 1 below, the admitted prior art of the '580 patent discloses a master transceiver 24 that communicates with a plurality of tributary transceivers 26. '580 patent at 3:40-46, Fig. 1.



**FIG. 1**  
**Prior Art**

'580 patent, Fig. 1.

Upender is in the same field of art as Snell, with both relating to protocols for communications over a network. *See, e.g.*, Upender at 7 (“let’s examine various *commonly available media access protocols*”), 7 (“*In this protocol*, a centrally assigned master sends a polling message to the slave nodes, giving them explicit permission *to transmit on the network*.”). Upender further confirms that a person of ordinary skill in the art would be motivated to use a master/slave protocol with the teachings of Snell (as implemented in light of Harris 4064.4). Upender discusses a finite list of well-known communications protocols applicable for use in a network setting, including a polled (master/slave) protocol, and expressly teaches benefits of using a polled (master/slave) protocol. For example, Upender teaches that “[p]olling is one of the more popular protocols for embedded systems because of its simplicity

*and determinacy*. In this protocol, a centrally assigned master periodically polls the slave nodes for information.” Upender at 7; *see also* IPR2014-00518, Pap. 47 at 15-16 (citing Upender at 7 and finding that “Upender teaches that master/slave protocols were widely used and a good choice for simple systems”); ‘580 Prosecution History at 404-405; IPR2014-00518, Ex. 1220 (Declaration of David Goodman) ¶¶92-104. While Upender discloses tradeoffs of using a master/slave protocol as compared with other communication protocols (*see* Upender at 11, Table 1), to the extent Patent Owner incorrectly argues that discussion of these tradeoffs is a teaching away, this should be rejected as Upender expressly teaches that a protocol for a particular application should be selected in light of the respective costs and benefits of available protocols, nothing that the discussion of the strengths and weaknesses of the different protocols “should allow you to select the best protocol to match your needs”; thus, it does not teach away from using the master/slave protocol. Upender at 10-11; *see also* IPR2014-00518, Pap. 47 at 16 (citing Upender at 10-11 and finding that Upender does not “teach away” from using the master/slave protocol); ‘580 Prosecution History at 405. Upender’s express teaching that a polled (master/slave) protocol is advantageous for its “simplicity and determinacy,” would have motivated a POSITA to use such a protocol in implementing Snell’s communication system, particularly in any system in which simplicity and determinacy are important considerations. Upender at 7; *see also* IPR2014-00518, Pap. 47 at 15-17; ‘580 Prosecution History at 404-406. Upender further teaches that a polled (master/slave) protocol is “*ideal for a centralized data-acquisition system* where peer-to-peer communication and global prioritization are not required,” such as Snell’s centralized data-acquisition system comprising an access point transceiver supporting a group of transceivers which does not require communicating using peer-to-peer communication or global prioritization. *See* Snell at 1:34-46.

In addition, the Admitted Prior Art demonstrates that polled (master/slave) protocols were well-known (*see* '580 patent at 3:40-44), as also further confirmed by Upender (*see* Upender at 7 (“let’s examine various *commonly available media access protocols*”), 7 (“*polling [(master/slave)] is one of the more popular protocols*”), and thus implementing a polled (master/slave) protocol in Snell’s transceiver (as implemented in light of Harris 4064.4), which serves as an access point to support communications with multiple other transceivers and is also operable according to a polled (master/slave) protocol, would involve nothing more than using common and known techniques to improve a similar system in the same way to yield predictable results. *KSR*, 550 U.S. at 416. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to implement the admitted prior art of a master/slave communication system in implementing Snell’s system (as implemented in light of Harris 4064.4).

It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A POSITA would have been motivated and found it obvious and straightforward to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets (as implemented in light of Harris 4064.4 and the Admitted Prior Art) to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate. Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (*see, e.g.*, Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates

(*see, e.g.*, Snell at 2:15-17, 6:52-59; Yamano at 19:54-56). Yamano expressly teaches that including a destination address in the preamble portion of the data packet, which precedes the data portion, will advantageously reduce processing requirements of receiving devices because the receiving device can filter out packets which it does not need to demodulate. Yamano at 20:54-59 (“When the preamble in a burst-mode packet *includes the destination address of the packet*, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.”). In addition, Snell teaches structuring its data packet to include a preamble, header, and MPDU data portion (*see, e.g.*, Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3), and Yamano teaches structuring its data packet to also include a preamble and data portion, and to place the destination address in the preamble portion (Yamano at 19:63-20:7, Fig. 8). It would have been routine and straightforward for a POSITA to include a destination address in the data packet, as taught by Yamano, in implementing Snell’s system for transmitting data packets between transceivers (as implemented in light of Harris 4064.4 and the Admitted Prior Art), as Snell teaches that its data packet already includes a preamble portion—and in combination, each element (Yamano’s teaching of placing a destination address in the preamble and Snell’s teaching of a system for communicating data packets modulated according to different modulation methods between transceivers) performs the same function as it would separately, yielding nothing more than predictable results. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to use Yamano’s advantageous



teachings of including a destination address in the data packet in implementing Snell's communication system (as implemented in light of Harris 4064.4 and the Admitted Prior Art).

It was also well-known in the art, as demonstrated by Kamerman, to transmit a first data packet where the data is modulated using a second modulation method, such as QPSK (corresponding to a higher data transfer rate), and to next transmit a second data packet where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (*i.e.*, to revert to the first modulation method). A POSITA would have been motivated and found it obvious and straightforward to use Kamerman's teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell's system for communicating data packets modulated according to different modulation methods (implemented using the teachings of Harris 4064.4, the Admitted Prior Art, and Yamano, as discussed above) to advantageously maximize the data transfer rate and adapt to changing channel conditions (as also taught by Kamerman). In particular, Kamerman expressly teaches that it is beneficial to transmit the data of a first data packet using a second modulation method corresponding to a higher data transfer rate (*e.g.*, QPSK modulation at 2 mbps) during lower load conditions to maximize the data transfer rate during lower load conditions when the connection is more reliable and to next transmit the data of a second data packet using a first modulation method corresponding to a lower data transfer rate (*e.g.*, BPSK modulation at 1 mbps) (*i.e.*, falling back) during higher load conditions when a more robust signal is needed due to "mutilation of transmissions by interference." *See* Kamerman at 6 ("Then there is looked to *automatic rate control* to keep the cochannel interference at a tolerable level."), 11 ("The basic rate adaptation scheme could be: *after unacknowledged packet transmissions the rate falls back,*

and after a number (*e.g.* 10) of successive correctly acknowledged packet transmissions the bit rate goes up.”), 11 (“At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, *will be done at fallback rates due to mutilation of transmissions by interference.* In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. *Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells ... there will be switched to fall back rates in the outer part of the cell.*”), 12 (“This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference. Therefore it gives adaptation of the bit rate to the interference as it occurs in time depending on positions as load.”).

Moreover, Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard available at that time. *See, e.g.,* Snell at 1:47-63 (“The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 *which is compatible with the proposed IEEE 802.11 standard...*”), 5:31-33 (“The present invention provides an extension of the PRISM 1 product from *1 Mbit/s BPSK and 2 Mbit/s QPSK...*”); Kamerman at 6 (“This paper considers the critical parameters for *wireless LANs that operate conform to the IEEE 802.11 DSSS (direct sequence spread spectrum) standard...*”), 11 (“IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps.”), 11 (“IEEE 802.11 DS specifies BPSK and QPSK...”). It would have been routine and straightforward for a POSITA to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting

a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell's system (implemented in light of Harris 4064.4, the Admitted Prior Art, and Yamano) for communicating data packets modulated according to different modulation methods, as both Snell and Kamerman are directed to IEEE 802.11 systems utilizing QPSK and BPSK modulation methods corresponding, respectively, to higher and lower data transfer rates—and in combination, each element (Kamerman's teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method and Snell's system for communicating data packets modulated according to different modulation methods) performs the same function as it would separately, yielding nothing more than predictable results. *KSR*, 550 U.S. at 417. A POSITA would have thus recognized that this combination (yielding the claimed limitation) would have worked as expected. For these reasons, a POSITA would have been motivated and found it obvious and straightforward to implement Kamerman's advantageous teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell's system (implemented in light of Harris 4064.4, the Admitted Prior Art, and Yamano) for communicating data packets modulated according to different modulation methods.

The combination of Snell, Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman shows or renders obvious each and every element of the inventions of claims 2 and 59. The relevant teachings of the combination of Snell, Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman were not considered during the prior examination of the '580

patent and a reasonable Examiner would consider these disclosures important in determining whether or not the claims are patentable.

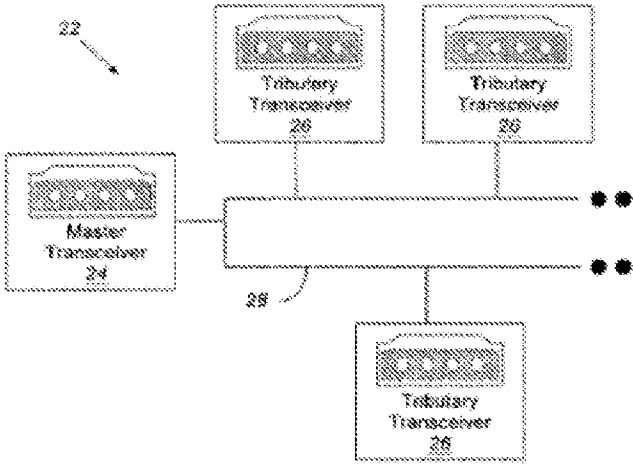
Therefore, the combination of Snell, Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman raises a substantial new question of patentability with respect to claims 2 and 59 of the '580 patent (SNQ-3) and presents new technological teachings not previously considered in connection with prosecution of the '580 patent. MPEP § 2216. Accordingly, Requesters propose that claims 2 and 59 should be rejected under § 103 as rendered obvious by Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman.

The following claim chart demonstrates, in further detail, how each limitation is, at a minimum, obvious in light of Snell, Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman.

'580 Patent Claim 2	SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman
<p>1. [preamble] A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell in view of the Admitted Prior Art discloses a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave. See, e.g., Snell at 1:34-46, 1:47-50, 1:55-57, 2:27-30, 4:42-47, 5:18-21; Harris AN9614 at 3.</b></p> <p>For example, Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN).</p> <p>“In a typical WLAN, <i>an access point provided by a transceiver</i>, that is, a combination transmitter and receiver, connects to the wired network from a fixed location. Accordingly, the access transceiver receives, buffers, and transmits data between the WLAN and the wired network. <i>A single access transceiver can support a small group of collocated users within a range of less than about one hundred to several hundred feet. The end users connect to the WLAN through transceivers</i> which are typically implemented as PC cards in a notebook computer, or ISA or PCI cards for desktop computers. Of course the transceiver may be integrated with any</p>

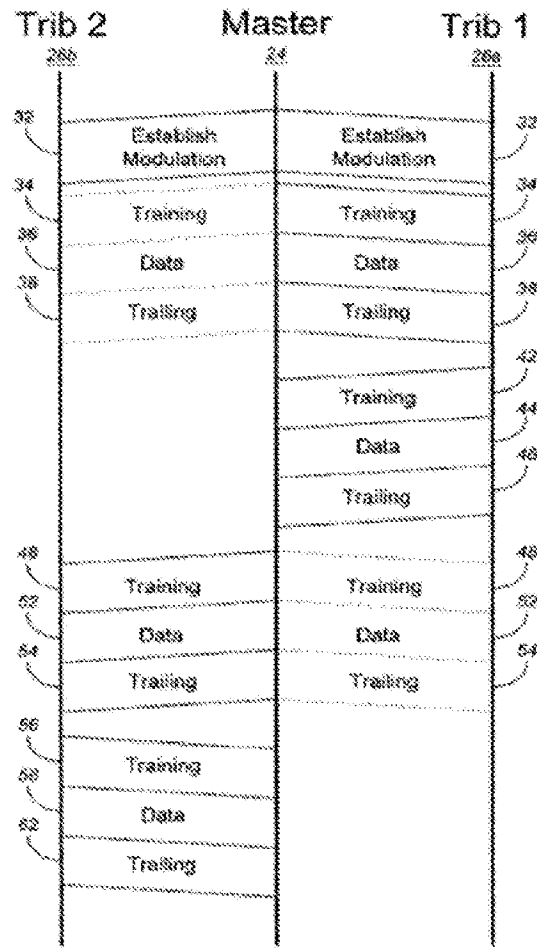
'580 Patent Claim 2	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p>device, such as a hand-held computer.” Snell at 1:34-46.</p> <p>“Like the HSP3824 baseband processor, the high data rate baseband processor 40 of the invention contains all of the functions necessary for a full or half duplex packet baseband <i>transceiver</i>.” Snell at 5:18-21.</p> <p>“The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, <i>packet communications</i> at the 2.4 to 2.5 GHz ISM radio band.” Snell at 1:55-57.</p> <p><i>See also, e.g.</i>, Snell at 2:27-30 (“It is another object of the invention to provide a <i>spread spectrum transceiver</i> and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.”); Snell at 1:47-50 (“The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard.”); Snell at 4:42-47 (“Referring to FIG. 1, a <i>wireless transceiver 30</i> in accordance with the invention is first described. The <i>transceiver 30</i> may be readily used for <i>WLAN applications</i> in the 2.4 GHz ISM band in accordance with the proposed IEEE 802.11 standard. Those of skill in the art will readily recognize other applications for the transceiver 30 as well.”).</p> <p>Snell incorporates by reference Harris AN9614,<sup>33</sup> which discloses:</p> <p>“[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.” Harris AN9614 at</p>

<sup>33</sup> Snell expressly incorporates by reference “the entire disclosure” of Harris AN9614 (Snell at 5:2-7). *See Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011) (“the entire ‘579 application disclosure was incorporated by the broad and unequivocal language: ‘The disclosures of the two applications are hereby incorporate[d] by reference.’”); *see also Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed.Cir.2000) (“material not explicitly contained in the single, prior art document may still be considered for purposes of anticipation if that material is incorporated by reference into the document.”).

'580 Patent Claim 2	SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman
	<p>3.</p> <p><b>Applicants' Admitted Prior Art<sup>34</sup> discloses a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave. See, e.g., '580 at 3:40-4:50, Fig. 1, Fig. 2.</b></p> <p>For example, the '580 Patent discloses a prior art system with master and tributary (slave) transceivers, as shown in Figures 1 and 2 (depicted below).</p>  <p style="text-align: center;"><b>FIG. 1</b> <b>Prior Art</b></p> <p>'580 at Fig. 1.</p>

<sup>34</sup> In IPR2014-00518, the Board found that the '580's disclosed multipoint communication systems or master/slave systems, depicted in '580 patent, Figures 1 and 2 and 3:40-4:50 is material that may be used as prior art against the patent under §103. IPR2014-00518, Pap. 47 (Final Written Decision) at 13; As explained in Section III.E, a POSITA would have been motivated and found it obvious and straightforward to use the Applicant's Admitted Prior Art of a master/slave communication system (see '580 patent at 3:40-4:50, Figs. 1, 2) in implementing Snell's communication system (as implemented in light of Harris 4064.4).

**'580 Patent Claim 2**      **SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman**



**FIG. 2**

'580 at Fig. 2.

“With reference to *FIG. 1*, a prior art multipoint communication system 22 is shown to comprise a master modem or transceiver 24, which communicates with a plurality of tributary modems (tribs) or transceivers 26-26 over communication medium 28. Note that all tribs 26-26 are identical in that they share a common modulation method with the master transceiver 24. Thus, before any communication can begin in multipoint system 22, the master transceiver and the tribs 26-26 must agree on a common modulation method. If a common modulation method is found, the master transceiver 24 and a single trib 26 will then exchange sequences of signals that are particular subsets of all signals that can be communicated via the agreed upon common modulation method. These sequences are commonly referred to as training signals and can be used for the following purposes: 1) to confirm that the common modulation method is available, 2) to establish received signal level compensation, 3)

<b>'580 Patent Claim 2</b>	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p>to establish time recovery and/or carrier recovery, 4) to permit channel equalization and/or echo cancellation, 5) to exchange parameters for optimizing performance and/or to select optional features, and 6) to confirm agreement with regard to the foregoing purposes prior to entering into data communication mode between the users. In a multipoint system, the address of the trib with which the master is establishing communication is also transmitted during the training interval. At the end of a data session a communicating pair of modems will typically exchange a sequence of signals known as trailing signals for the purpose of reliably stopping the session and confirming that the session has been stopped. In a multipoint system, failure to detect the end of a session will delay or disrupt a subsequent session.</p> <p>Referring now to FIG. 2, an exemplary multipoint communication session is illustrated through use of a ladder diagram. <i>This system uses polled multipoint communication protocol. That is, a master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.</i> At the beginning of the session, the master transceiver 24 establishes a common modulation as indicated by sequence 32 that is used by both the master 24 and the tribs 26a, 26b for communication. Once the modulation scheme is established among the modems in the multipoint system, The master transceiver 24 transmits a training sequence 34 that includes the address of the trib that the master seeks to communicate with. In this case, the training sequence 34 includes the address of trib 26a. As a result, trib 26b ignores training sequence 34. After completion of the training sequence 34, master transceiver 24 transmits data 36 to trib 26a followed by trailing sequence 38, which signifies the end of the communication session. Similarly, with reference to FIG. 8, the sequence 170 illustrates a Type A modulation training signal, followed by a Type A modulation data signal. Note that trib 26b ignores data 36 and trailing sequence 38 as it was not requested for communication during training sequence 34.</p> <p>At the end of trailing sequence 38, trib 26a transmits training sequence 42 to initiate a communication session with master transceiver 24. <i>Because master transceiver 24 selected trib 26a for communication as part of training sequence 34, trib 26a is the only modem that will return a transmission.</i> Thus, trib 26a transmits data 44 destined for master transceiver 24 followed by trailing sequence 46 to terminate the communication session.</p> <p><i>The foregoing procedure is repeated except master transceiver identifies trib 26b in training sequence 48. In this case, trib 26a ignores the training sequence 48 and the subsequent transmission of data 52 and trailing</i></p>



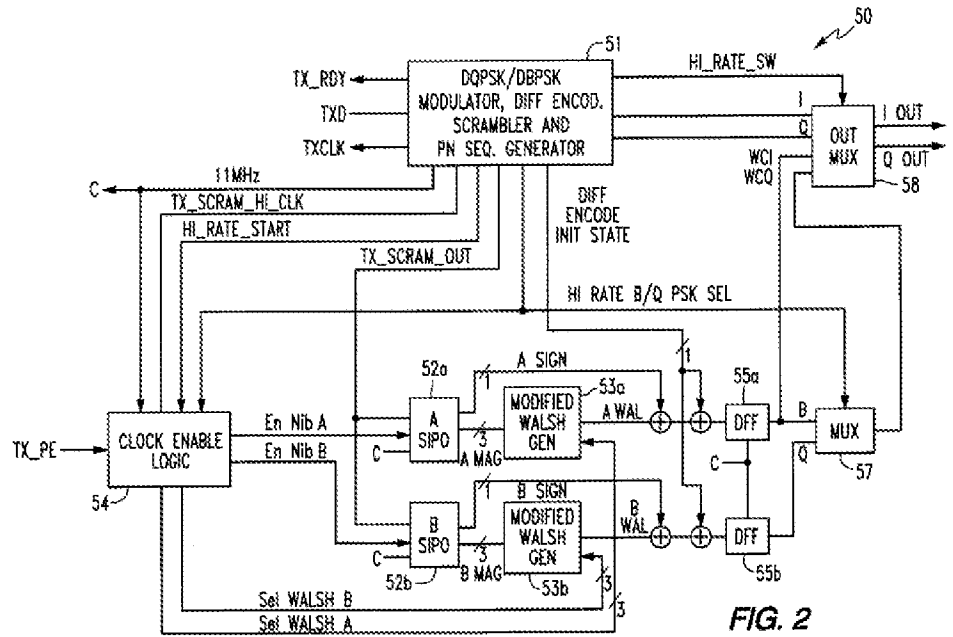
<b>'580 Patent Claim 2</b>	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p><i>sequence 54 because it does not recognize its address in training sequence 48. Master transceiver 24 transmits data 52 to trib 26b followed by trailing sequence 54 to terminate the communication session. Similarly, with reference to FIG. 8, sequence 172 illustrates a Type A modulation signal, with notification of a changes to Type B, followed by a Type B modulation data signal. To send information back to master transceiver 24, trib 26b transmits training sequence 56 to establish a communication session. Master transceiver 24 is conditioned to expect data only from trib 26b because trib 26b was selected as part of training sequence 48. Trib 26b transmits data 58 to master transceiver 24 terminated by trailing sequence 62.” ‘580 at 3:40-4:50.</i></p>
[1.A] a transceiver, in the role of the master according to the master/ slave relationship,	<p><b>Snell in view of the Admitted Prior Art discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See Element 1.preamble.</i></p>
[1.B] for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,	<p><b>Snell discloses a transceiver for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.<sup>35</sup> See, e.g., Snell at Abstract, 1:58-61, 2:56-59, 2:61-3:5, 6:64-66, 7:6-8, Figs. 2, 3, 5; Harris 4064.4 at 14-16.</b></p> <p>For example, Snell discloses that transmissions are modulated using a “first modulation method” (e.g., BPSK) and a “second modulation method” (e.g., QPSK) that is of a different “type” than the “first modulation method.”</p> <p>“The modulator preferably comprises means for operating <i>in one of a bi-phase PSK (BPSK) modulation mode</i> at a first data rate defining a first format, and <i>a quadrature PSK (QPSK) mode</i> at a second data rate defining a second format.” Snell at 2:56-59.</p> <p>“In particular, the HSP3824 baseband processor manufactured by Harris</p>

<sup>35</sup> In IPR2014-00518, the Board construed the limitation “different ‘types’ of modulation methods” in ‘580 claims 1 and 58 to mean “modulation methods that are incompatible with each other” and found that “two modulation methods that are based on varying the same one of the frequency, amplitude, or phase of the carrier wave may be different ‘types’ of modulation methods.” IPR2014-00518, Pap. 47 (Final Written Decision) at 12. The Board also found that the “DQPSK ... modulation method[] [is] incompatible with DBPSK modulation.” *Id.* at 18.

<p>'580 Patent Claim 2</p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
	<p>Corporation <i>employs quadrature or bi-phase phase shift keying (QPSK or BPSK) modulation schemes.</i>” Snell at 1:58-61.</p> <p><i>See also, e.g.,</i> Snell at Abstract (“The modulator and demodulator are each preferably operable <i>in one of a bi-phase PSK (BPSK) mode</i> at a first data rate and <i>a quadrature PSK (QPSK) mode</i> at a second data rate. These formats may also be switched on-the-fly in the demodulator.”), 2:15-17 (“Moreover, a WLAN application, for example, may require a change between <i>BPSK and QPSK</i> during operation, that is, on-the-fly.”).</p> <p>Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK, which is “of a different type than the first modulation method,” and alternatively describes that the “first modulation method” may be differential BPSK (“DBPSK”) and that the “second modulation method” may be differential QPSK (“DQPSK”), which is also “of a different type than the first modulation method.”</p> <p>Thus, Snell alternatively discloses modulating the PLCP preamble and PLCP header using DBPSK modulation, and modulating the MPDU data using DBPSK or DQPSK modulation.</p> <p><i>“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.”</i> Snell at 6:64-66.</p> <p><i>“The modulator may also preferably include header modulator means for modulating data packets to include a header at a predetermined modulation and a third data rate defining a third format. . . . The third format is preferably differential BPSK.”</i> Snell at 2:61-3:5.</p> <p><i>“The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding.”</i> Snell at 7:6-8.</p> <div> <p>The diagram shows two rows of packet fields. The top row consists of SYNC(128), SFD(18), SIGNAL(8), SERVICE(8), LENGTH(16), CRC(16), and MPDU (VARIABLE). The bottom row consists of PLCP PREAMBLE, PLCP HEADER, and MPDU (VARIABLE). A vertical dashed line indicates the SWITCHCOVER POINT. A horizontal arrow above the top row indicates a total duration of 192 μs. A horizontal arrow below the PLCP PREAMBLE indicates a duration of 144 μs. A horizontal arrow below the PLCP HEADER indicates a duration of 48 μs. The modulation is labeled as DBPSK, 1Mbit/s (PER 802.11). Below the MPDU fields, it is noted as DIFFERENT FORMATS &amp; RATES.</p> </div> <p style="text-align: center;"><b>FIG. 3</b></p> <p>Snell at Fig. 3.</p>

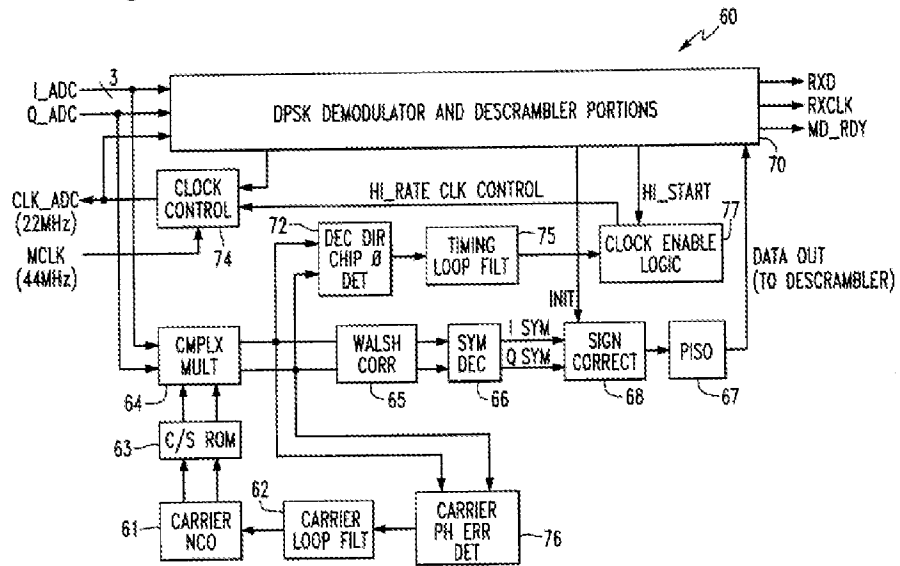
'580 Patent Claim 2

**SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman**



**FIG. 2**

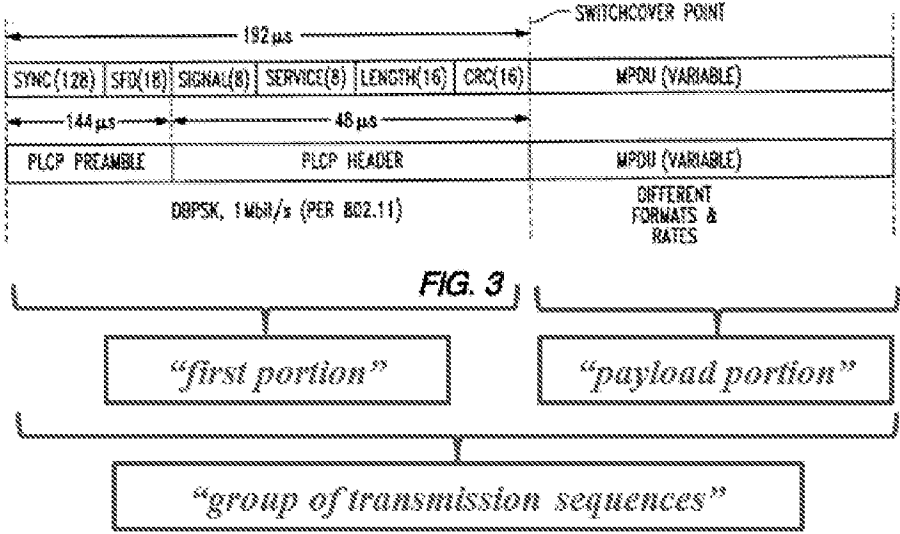
Snell at Fig. 2.



**FIG. 5**

'580 Patent Claim 2	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p>Snell at Fig. 5.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>36</sup> which discloses:</p> <p>“The preamble and header are always transmitted as <i>DBPSK</i> waveforms while the data packets can be configured to be <i>either DBPSK or DQPSK</i>.” Harris 4064.4 at 14.</p> <p>“The HSP3824 transmitter is designed as a Direct Sequence Spread Spectrum <i>DBPSK/DQPSK modulator</i>.” Harris 4064.4 at 14.</p> <p>“The modulator is capable of switching rate automatically in the case where the preamble and header information are <i>DBPSK</i> modulated, and the data is <i>DQPSK</i> modulated.” Harris 4064.4 at 14.</p> <p><i>See also, e.g.,</i> Harris 4064.4 at 15 (“The preamble is always transmitted as a <i>DBPSK</i> waveform with a programmable length of up to 256 symbols long.”); Harris 4064.4 at 15 (“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as <i>DBPSK or DQPSK</i>. In mode 3 the HSP3824 receiver <i>looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation</i> at the end of the always <i>DBPSK</i> preamble and header fields.”); Harris 4064.4 at 16 (“Mode 3 - In this mode the preamble is programmable up to 256 bits (all 1’s). The header in this mode is using all available fields. In mode 3 the signal field defines the modulation type of the data packet (<i>DBPSK or DQPSK</i>) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to <i>DQPSK</i> if it is defined as such in the signal field. Note that the preamble and header are always <i>DBPSK</i> the modulation definition applies only for the data packet.”).</p>
[1.C] wherein each transmission comprises a group of transmission sequences, wherein each group of	<p><b>Snell discloses each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion. <i>See, e.g., Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3.</i></b></p> <p>For example, Snell discloses transmitting a group of transmission</p>

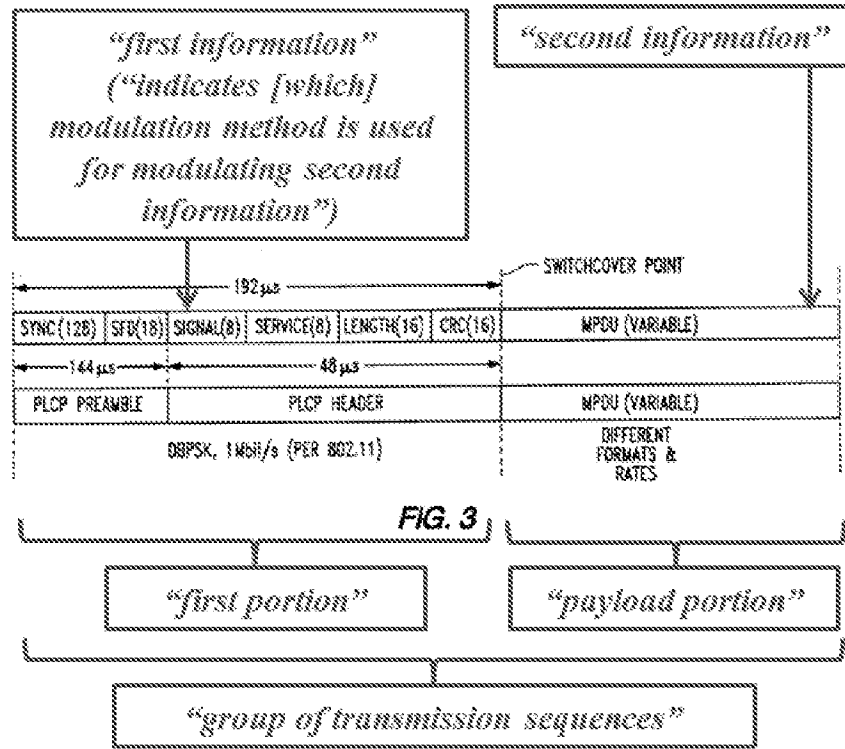
<sup>36</sup> *See supra* n.32. As explained in Section III.E, a POSITA would have been motivated and found it obvious and straightforward to use Harris 4064.4’s teachings of modulating the preamble and header portions of a data packet using *DBPSK* modulation and modulating the payload portion of the data packet using *DBPSK* or *DQPSK* modulation in implementing an IEEE 802.11 system such as disclosed in Snell.

<p><b>'580 Patent Claim 2</b></p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
<p>transmission sequences is structured with at least a first portion and a payload portion</p>	<p>sequences structured with a “first portion” including the PLCP preamble and PLCP header and a “payload portion” including the MPDU data (as depicted in Figure 3 below)</p>  <p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header</i> may always be BPSK.” Snell at 6:35-36.</p> <p>“<i>The PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.” Snell at 6:64-66.</p> <p>“<i>MPDU</i> is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data</i> may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p>
<p>[1.D] wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for</p>	<p><b>Snell discloses that first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion. See, e.g., 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14; Harris 4064.4 at 15-16, Fig. 10.</b></p> <p>For example, Snell discloses that the “SIGNAL” in the PLCP Header indicates (e.g., using “OAh,” “14h,”...) the modulation type (e.g., BPSK</p>

**'580 Patent Claim 2** **SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman**

modulating second information in the payload portion,

or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion.



Snell at Fig. 3 (annotated).

“The *header* may always be BPSK.” Snell at 6:35-36.

“The *PLCP preamble and PLCP header* are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip Barker.” Snell at 6:64-66.

“Now relating to the *PLCP header 91*, the *SIGNAL* is:

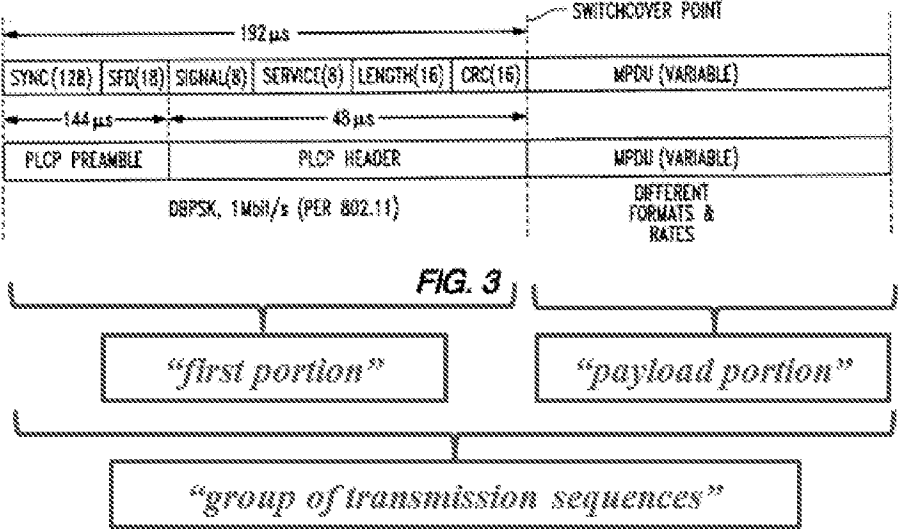
0Ah	1 Mbit/s BPSK,
14h	2 Mbit/S QPSK,
37h	5.5 Mbit/s BPSK, and
6Eh	11 Mbit/s QPSK.

Snell at 6:52-59.

“*SIGNAL* is indicated by 2 control bits and then formatted as described.” Snell at 7:1-2.

<b>'580 Patent Claim 2</b>	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.</i>” Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>37</sup> which discloses:</p> <p>“<i>Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields.</i>” Harris 4064.4 at 15.</p> <p>“<i>In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet.</i>” Harris 4064.4 at 16.</p> <p><i>See also, e.g., Harris 4064.4 at FIGURE 10.</i></p>
[1.E] wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and	<p><b>Snell in view of Yamano discloses that at least one group of transmission sequences is addressed for an intended destination of the payload portion. <i>See, e.g., 6:35-36, 6:64-66, 7:5-14, Fig. 3; Harris 4064.4 at 14.</i></b></p> <p>For example, Snell discloses that the transceiver transmits a group of transmission sequences (including a PLCP Preamble and PLCP header, and MPDU data) to another transceiver.</p>

<sup>37</sup> *See supra* n.36.

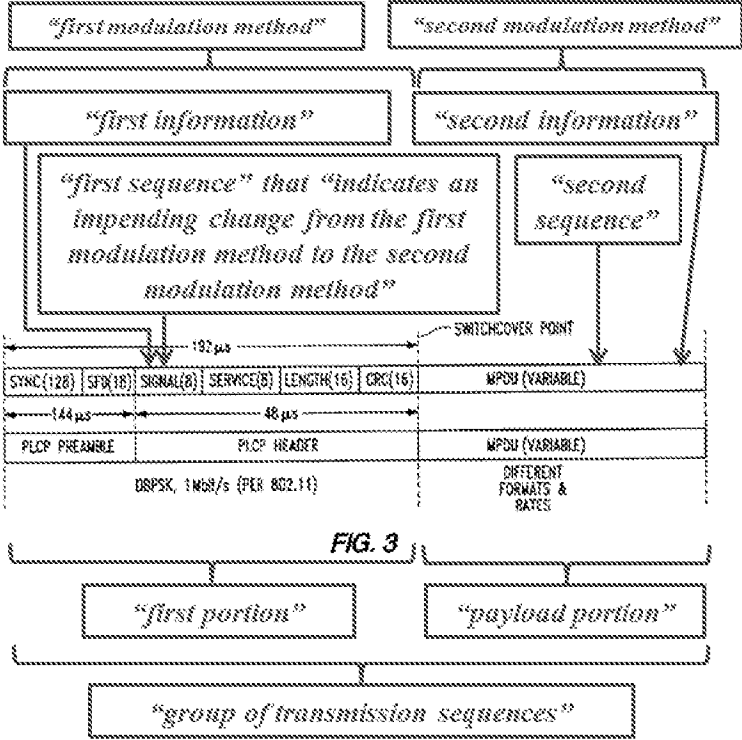
'580 Patent Claim 2	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
	 <p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header</i> may always be BPSK.” Snell at 6:35-36.</p> <p>“The <i>PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker.” Snell at 6:64-66.</p> <p>“<i>MPDU</i> is serially provided by Interface 80 and <i>is the variable data</i> scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data</i> may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>38</sup> which discloses:</p> <p>“The <i>preamble and header</i> are always transmitted as DBPSK waveforms while the <i>data packets</i> can be configured to be either DBPSK or DQPSK.” Harris 4064.4 at 14.</p> <p><b>Yamano<sup>39</sup> discloses at least one group of transmission sequences is addressed for an intended destination of the payload portion. See, e.g., Yamano at 19:63-64, 20:1-7, 20:54-59, Fig. 8.</b></p>

<sup>38</sup> See *supra* n.32.



<p><b>'580 Patent Claim 2</b></p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Uspender, Yamano, and Kamerman</b></p>
	<p>For example, Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.”</p> <p>“<i>Packet 700</i> includes a <i>preamble 701</i> and a <i>main body 702</i>.” Yamano at 19:63-64.</p> <p>“For example, <i>preamble 701</i> can include information which identifies: (1) a version or type field for the preamble, (2) <i>packet source and destination addresses</i>, (3) the line code (i.e., the modem protocol being used), (4) the data rate, (5) error control parameters, (6) packet length and (7) a timing value for the expected reception slot of a subsequent packet.” Yamano at 20:1-7 (emphasis added).</p> <div> </div> <p>Yamano at Figure 8 (annotated).</p> <p>“When the preamble in a burst-mode packet <i>includes the destination address of the packet</i>, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.” Yamano at 20:54-59.</p>
<p>[1.F] wherein for the at least one group of transmission sequences: the first</p>	<p><b>Snell in view of Harris 4064.4 discloses for the at least one group of transmission sequences, the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation</b></p>

<sup>39</sup> As explained in Section III.E, a POSITA would have been motivated and found it obvious and straightforward to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets (as implemented in light of Harris 4064.4 and the Admitted Prior Art).

<p><b>'580 Patent Claim 2</b></p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
<p>information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method. See, e.g., Snell at 2:61-3:5, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Figs. 2, 3, 5; Harris 4064.4 at 15-16, Fig. 10.</b></p> <p>For example, Snell discloses that the “first information” (e.g., PLCP preamble and PLCP header) comprises a “first sequence (e.g., “<i>SIGNAL</i>” field in PLCP header) “modulated according to a first modulation method” (e.g., BPSK). The “<i>SIGNAL</i>” field “indicates” (e.g., using “14h”) “an impending change from the first modulation method” (e.g., BPSK) “to the second modulation method” (e.g., QPSK).</p>  <p><b>FIG. 3</b></p> <p>Snell at Fig. 3 (annotated).</p> <p>“The <i>header may always be BPSK.</i>” Snell at 6:35-36.</p> <p>“Now relating to the <i>PLCP header 91, the SIGNAL</i> is:</p>

'580 Patent Claim 2	SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman								
	<table border="1"> <tr> <td>0Ah</td> <td>1 Mbit/s BPSK,</td> </tr> <tr> <td>14h</td> <td>2 Mbit/S QPSK,</td> </tr> <tr> <td>37h</td> <td>5.5 Mbit/s BPSK, and</td> </tr> <tr> <td>6Eh</td> <td>11 Mbit/s QPSK.</td> </tr> </table> <p>Snell at 6:52-59.</p> <p>“SIGNAL is indicated by 2 control bits and then formatted as described.” Snell at 7:1-2.</p> <p>“MPDU is serially provided by Interface 80 and <i>is the variable data</i> scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data may be modulated and demodulated in different formats</i> than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at 7:5-14.</p> <p>Snell describes that the “first modulation method” may be BPSK and the “second modulation method” may be QPSK, which is of a different “type” than the first modulation method, and alternatively describes that the “first modulation method” may be differential BPSK (“DBPSK”) and that the “second modulation method” may be differential QPSK (“DQPSK”), which is also of a different “type” than the first modulation method.</p> <p>Thus, Snell alternatively discloses that the PLCP preamble and PLCP header includes a “SIGNAL” field that may be modulated according to a “first modulation method” (<i>e.g.</i>, <u>DBPSK</u>) and “indicates an impending change from the first modulation method” (<i>e.g.</i>, <u>DBPSK</u>) “to the second modulation method” (<i>e.g.</i>, <u>DQPSK</u>).</p> <p>“<i>The PLCP preamble and PLCP header</i> are always at 1 Mbit/s, <i>Diff encoded</i>, scrambled and spread with an 11 chip barker.” Snell at 6:64-66.</p> <p>“The modulator may also preferably include header modulator means for modulating data packets to include <i>a header at a predetermined modulation and a third data rate defining a third format. . . . The third format is preferably differential BPSK.</i>” Snell at 2:61-3:5.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. <i>The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff</i></p>	0Ah	1 Mbit/s BPSK,	14h	2 Mbit/S QPSK,	37h	5.5 Mbit/s BPSK, and	6Eh	11 Mbit/s QPSK.
0Ah	1 Mbit/s BPSK,								
14h	2 Mbit/S QPSK,								
37h	5.5 Mbit/s BPSK, and								
6Eh	11 Mbit/s QPSK.								

<b>'580 Patent Claim 2</b>	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p><i>Encoding.</i>” Snell at 7:5-8. <i>See also, e.g.,</i> Snell at Figs. 2, 3, 5.</p> <p>Snell incorporates by reference Harris 4064.4,<sup>40</sup> which discloses:</p> <p><i>“Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields.”</i> Harris 4064.4 at 15.</p> <p><i>“In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet.”</i> Harris 4064.4 at 16.</p> <p><i>See also, e.g.,</i> Harris 4064.4 at FIGURE 10.</p>
[1.G] the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.	<p><b>Snell discloses that the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See</i> Element 1.F.</p>
2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third	<p><i>See</i> claim 1. <b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. <i>See, e.g.,</i> Snell at 1:55-57, 2:27-30, 2:61-63, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Fig.</b></p>

<sup>40</sup> *See supra* n.36.

'580 Patent Claim 2	SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman
<p>sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</p>	<p><b>3; Harris 4064.4 at 15-16, Fig. 10.; Kamerman at 6, 11, 12.</b></p> <p>For example, Snell discloses a transceiver for transmitting data packets to another transceiver, where the communication may switch on-the-fly between different types of modulation methods.</p> <p>“The modulator may also preferably include header modulator means for modulating <i>data packets</i>.” Snell at 2:61-63.</p> <p>“The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, <i>packet communications</i> at the 2.4 to 2.5 GHz ISM radio band.” Snell at 1:55-57.</p> <p>“It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and <i>which may switch on-the-fly between different data rates and/or formats</i>.” Snell at 2:27-30.</p> <p>“The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and <i>while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly</i>.” Snell at 7:10-14.</p> <p>Snell also discloses that the “SIGNAL” field in the header of the packet is modulated in a first modulation method and indicates the modulation type (<i>e.g.</i>, BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion. <i>See</i> Element 1.D.</p>

'580 Patent Claim 2	SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Uspender, Yamano, and Kamerman
	<p>Snell at Fig. 3 (annotated).<sup>41</sup></p> <p><b>Kamerman<sup>42</sup> discloses reverting from a second modulation method to</b></p>

<sup>41</sup> Snell teaches communicating multiple data packets with the ability to “switch on-the-fly between different data rates and/or formats.” Based on this disclosure, a person of ordinary skill in the art would have understood that Snell teaches that a series of packets may be sent that switch from using a second modulation method to using a first modulation method for the payload portion of the data packet. For example, as shown in Figure 3 (annotated), a first packet in Snell comprises a “first sequence” (e.g., PLCP preamble and PLCP header) that is “modulated according to the first modulation method” (e.g., BPSK) where the “first sequence” (e.g., “SIGNAL” field in PLCP header) “indicates” (e.g., using “14h”) the modulation type (e.g., QPSK) used for modulating the “second sequence” (e.g., MPDU data). For the first packet, the “SIGNAL” field in the PLCP header uses a code (e.g., “14h”) that “indicates” that the MPDU data is modulated “according to the second modulation method” (e.g., QPSK). The “second modulation method” (e.g., QPSK) “is of a different type than the first modulation method” (e.g., BPSK).

Snell’s transceiver may then transmit a second packet comprising a “third sequence” ( e.g., PLCP preamble and PLCP header) “transmitted in the first modulation method” (e.g., BPSK) where the “third sequence” (e.g., “SIGNAL” field in PLCP header) “indicates” (e.g., using “0Ah”) the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet. For the second packet, the “SIGNAL” field in the PLCP header uses a code (e.g., “0Ah”) that “indicates” that the MPDU data is modulated using the BPSK modulation method at 1 Mbit/s. This “SIGNAL” thus “indicates that communication” from the transceiver “has reverted to the first modulation method” (e.g., reverted to BPSK modulation). In addition, transmitting the data using the “first modulation method” (e.g., BPSK) results in a data rate of 1 Mbit/s which is lower than transmitting the data using the “second modulation method,” which results in a data rate of 2 Mbit/s.

'580 Patent Claim 2	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b>
	<p><b>a first modulation method. See, e.g., Kamerman at 6, 11, 12.</b></p> <p>Kamerman discloses an automatic rate selection scheme for reverting (e.g., falling back) from a “second modulation method” (e.g., QPSK) corresponding to a higher data rate (e.g., 2 Mbit/s) to a “first modulation method” (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet transmissions, for instance, where there is a high load in neighbor cells causing cochannel interference.</p> <p>“Then there is looked to <i>automatic rate control</i> to keep the cochannel interference at a tolerable level.” Kamerman at 6.</p> <p>“IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps. The allowable SNR and CSIR values for reliable transmission of data packets are dependent on the bit rate.” Kamerman at 11.</p> <p>“IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. . . . An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: <i>after unacknowledged packet transmissions the rate falls back</i>, and after a number (e.g. 10) of successive correctly acknowledged packet transmissions the bit rate goes up.” Kamerman at 11.</p> <p>“<i>At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference.</i> In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. <i>Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.</i>” Kamerman at 11.</p>

<sup>42</sup> As explained in Section III.E, a POSITA would have been motivated and found it obvious and straightforward to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method (*i.e.*, reverting to the first modulation method) in implementing Snell’s system for communicating data packets modulated according to different modulation methods (as implemented using the teachings of Harris 4064.4, the Admitted Prior Art, and Yamano).

<p><b>'580 Patent Claim 2</b></p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
	<p>“The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and <i>fall back at strong cochannel interference.</i>” Kamerman at 12.</p>

<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
<p>58.[preamble] A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell in view of the Admitted Prior Art discloses a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave.</b></p> <p><i>See</i> Element 1.preamble.</p>
<p>[58.A] a transceiver, in the role of the master according to the master/ slave relationship,</p>	<p><b>Snell in view of the Admitted Prior Art discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See</i> Element 1.A</p>
<p>[58.B] capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method,</p>	<p><b>Snell discloses transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.</b></p> <p><i>See</i> Element 1.B.</p>



<p><b>'580 Patent Claim 59</b></p>	<p><b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, Admitted Prior Art, Upender, Yamano, and Kamerman</b></p>
<p>wherein the second modulation method is of a different type than the first modulation method,</p>	
<p>[58.C] and wherein the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>Snell in view of Harris 4064.4 discloses that the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method.</b></p> <p><i>See Elements 1.C, 1.D, 1.F.</i></p>
<p>[58.D] wherein the at least one message is addressed for an intended destination of the second sequence, and</p>	<p><b>Snell in view of Yamano discloses that at least one message is addressed for an intended destination of the second sequence.</b></p> <p><i>See Element 1.E.</i></p>
<p>[58.E] the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated</p>	<p><b>Snell discloses that the second sequence [is] modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See Element 1.G.</i></p>

<b>'580 Patent Claim 59</b>	<b>SNQ-3: Combined Disclosure of Snell in View of Harris 4064.4, Admitted Prior Art, Upender, Yamano, and Kamerman</b>
using the second modulation method, wherein the second sequence is transmitted after the first sequence.	
59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.	<b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</b>  <i>See claims 1, 2.</i>

#### IV. CONCLUSION

For at least the reasons set forth above, substantial new questions of patentability are raised concerning claims 2 and 59 of the '580 patent. Indeed, in view of the references discussed in this Request, the claims at issue are invalid as obvious. It is therefore respectfully submitted that this Request for reexamination of the '580 patent be granted and claims 2 and 59 be found invalid. If there are any questions, Requesters may be contacted at the below-listed telephone number.

As identified in the attached Certificate of Service and in accordance with 37 C.F.R. §§ 1.33(c) and 1.510(b)(5), a copy of the present Request, in its entirety, is being served to the

address of the attorney or agent of record reflected in the publicly available records of the United States Patent and Trademark Office as designated in the Office's Patent Application Information Retrieval system.

The Commissioner is hereby authorized to charge Deposit Account 18-1945 under Order No. 110797-0019-501 the *Ex Parte* Reexamination fee of \$12,000 under 37 C.F.R. § 1.20(c)(1). Requesters believe no other fee is due with this submission, however the Commissioner is hereby authorized to charge any fee deficiency or credit any over-payment to Deposit Account 18-1945.

Please direct all correspondence in this matter to the undersigned.

Dated: September 12, 2016

Respectfully submitted,

/J. Steven Baughman/

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Gordon F. Bremer	§	Attorney Docket No.: 110797-0019-501
U.S. Patent No. 8,023,580	§	Customer No.: 28120
Formerly Application No. 12/543,910	§	
Issue Date: September 20, 2011	§	Requesters: Samsung Electronics Co., Ltd.,
Filing Date: August 19, 2009	§	Samsung Electronics America, Inc.
Former Group Art Unit: 2611	§	
Former Examiner: Dac V. Ha	§	

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF SERVICE**

It is certified that, pursuant to 37 C.F.R. §1.510(b)(5), copies of the following documents have been served in their entireties on the patent owner at the correspondence address of record as provided for in 37 C.F.R. §1.33(c):

1. Request for Ex Parte Reexamination of U.S. Patent No. 8,023,580 Transmittal Form, PTO/SB/57.

2. Request for Ex Parte Reexamination of U.S. Patent No. 8,023,580 Pursuant to 35 U.S.C. § 302 and 37 C.F.R. § 1.510 and accompanying exhibits:

Exhibit A: U.S. Patent No. 8,023,580

Exhibit B: U.S. Application No. 12/543,910

Exhibit C: File History of U.S. Patent No. 8,023,580

Exhibit D: U.S. Patent No. 5,982,807

Exhibit E: Andren, C. et al., *Using the PRISM™ Chip Set for Low Data Rate Applications*, Harris Semiconductor Application Note No. AN9614, March 1996

Exhibit F: *HSP3824 Direct Sequence Spread Spectrum Baseband Processor*, Harris Semiconductor File No. 4064.4, Oct. 1996

Exhibit G: Declaration of Jon Mears; Exhibit A thereto (Uppender et al., "Communication Protocols for Embedded Systems," *Embedded Systems Programming*, Vol. 7, Issue 11, November 1994.

Exhibit H: U.S. Patent No. 6,075,814

Exhibit I: Kamerman, A., *Throughput Density Constraints for Wireless LANs Based on DSSS*, IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3

Exhibit J: Office Action in File History of U.S. Application No. 09/205,205 (issued as U.S. Patent No. 6,614,838), mailed June 28, 2001

Exhibit K: Applicant Response in File History of U.S. Application No. 09/205,205 (issued as U.S. Patent No. 6,614,838), dated Oct. 1, 2001

Exhibit L: File History of U.S. Patent No. 5,982,807 (other than the prior art of record)

Exhibit M: Terminal Disclaimer in File History of U.S. Patent No. 8,023,580, dated Dec. 4, 2014

Exhibit N: Terminal Disclaimer in File History of U.S. Patent No. 8,023,580, dated Dec. 15, 2014

Exhibit O: Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd. et al., No. 2:13-cv-00213, Excerpted pages from Plaintiff Rembrandt Wireless Technologies, LP's Disclosure of Asserted Claims and Infringement Contentions dated July 25, 2013, Exhibit C at 14, 48 (E.D. Tex.)

3. Information Disclosure Statement, PTO/SB/08, listing references cited in the Request for Ex Parte Reexamination of U.S. Patent No. 8,023,580 pursuant to 35 U.S.C. § 302 and 37 C.F.R. § 1.510.

The copy has been served on September 12, 2016 by causing the aforementioned documents to be deposited in the United States Postal Service as first class mail postage pre-paid in an envelope address to:

Condo Roccia Koptiw LLP  
1800 JFK Boulevard, Suite 1700  
Philadelphia, PA 19103

/Ginny Blundell/ \_\_\_\_\_  
Ginny Blundell

**ROPES & GRAY LLP**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

(Also referred to as FORM PTO-1465)

## REQUEST FOR *EX PARTE* REEXAMINATION TRANSMITTAL FORM

Address to:

**Mail Stop *Ex Parte* Reexam  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**

Attorney Docket No.: 110797-0019-501

Date: September 12, 2016

1.  This is a request for *ex parte* reexamination pursuant to 37 CFR 1.510 of patent number 8,023,580 issued 09-20-2011. The request is made by:  
 patent owner.  third party requester.
2.  The name and address of the person requesting reexamination is:  

Samsung Electronics Co., Ltd.  
416 Maetan-3 Dong, Yeongtong-Gu, Suwon-City  
Gyeonggi-Do, Korea 443-742, South Korea

Samsung Electronics America, Inc.  
85 Challenger Road  
Ridgefield Park, NJ 07660
3. Requester asserts  small entity status (37 CFR 1.27) or  certifies micro entity status (37 CFR 1.29).  
Only a patent owner requester can certify micro entity status. Form PTO/SB/15A or B must be attached to certify micro entity status.
4.  a. A check in the amount of \$ \_\_\_\_\_ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(1);  
 b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(1) to Deposit Account No. 18-1945 ;  
 c. Payment by credit card. Form PTO-2038 is attached; or  
 d. Payment made via EFS-Web.
5.  Any refund should be made by  check or  credit to Deposit Account No. 18-1945. 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.
6.  A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.510(b)(4).
7.  CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table  
 Landscape Table on CD
8.  Nucleotide and/or Amino Acid Sequence Submission  
*If applicable, items a. – c. are required.*
  - a.  Computer Readable Form (CRF)
  - b. Specification Sequence Listing on:
    - i.  CD-ROM (2 copies) or CD-R (2 copies); or
    - ii.  paper
  - c.  Statements verifying identity of above copies
9.  A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.
10.  Reexamination of claim(s) 2 and 59 is requested.
11.  A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.
12.  An English language translation of all necessary and pertinent non-English language patents and/or printed publications is included.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

13.  The attached detailed request includes at least the following items:
- a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.510(b)(1).
  - b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR 1.510(b)(2).
14.  A proposed amendment is included (only where the patent owner is the requester). 37 CFR 1.510(e).
15.  It is certified that the statutory estoppel provisions of 35 U.S.C. 315(e)(1) or 35 U.S.C. 325(e)(1) do not prohibit requester from filing this *ex parte* reexamination request. 37 CFR 1.510(b)(6).
16.  a. It is certified that a copy of this request (if filed by other than the patent owner) has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).  
 The name and address of the party served and the date of service are:

Condo Roccia Koptiw LLP  
 1800 JFK Boulevard, Suite 1700  
 Philadelphia, PA 19103

Date of Service: September 12, 2016 ; or

- b. A duplicate copy is enclosed since service on patent owner was not possible. An explanation of the efforts made to serve patent owner is **attached**. See MPEP 2220.

17. Correspondence Address: Direct all communication about the reexamination to:

The address associated with Customer Number: 28120

**OR**

Firm or Individual Name \_\_\_\_\_

Address

City	State	Zip
Country		
Telephone	Email	

18.  The patent is currently the subject of the following concurrent proceeding(s):
- a. Copending reissue Application No. \_\_\_\_\_
  - b. Copending reexamination Control No. \_\_\_\_\_
  - c. Copending Interference No. \_\_\_\_\_
  - d. Copending litigation styled:  
See attached sheet

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

/J. Steven Baughman/ September 12, 2016  
 Authorized Signature Date

J. Steven Baughman 47,414  
 Typed/Printed Name Registration No.

- For Patent Owner Requester  
 For Third Party Requester



1. *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, C.A. No. 2:13-cv-00213-JRG (E.D. Tex.)

2. *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, C.A. No. 2:16-cv-00170-JRG (E.D. Tex.)

3. *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, No. 2016-1729 (Fed. Cir.)

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>				
<b>Filing Date:</b>				
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS			
<b>First Named Inventor/Applicant Name:</b>	Gordon F. Bremer			
<b>Filer:</b>	Jon Steven Baughman/ginny blundell			
<b>Attorney Docket Number:</b>	110797-0019-501			
Filed as Large Entity				
<b>Filing Fees for ex parte reexam</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
REQUEST FOR EX PARTE REEXAMINATION	1812	1	12000	12000
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>12000</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	26902391
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	Gordon F. Bremer
<b>Customer Number:</b>	28120
<b>Filer:</b>	Jon Steven Baughman/ginny blundell
<b>Filer Authorized By:</b>	Jon Steven Baughman
<b>Attorney Docket Number:</b>	110797-0019-501
<b>Receipt Date:</b>	12-SEP-2016
<b>Filing Date:</b>	
<b>Time Stamp:</b>	23:41:22
<b>Application Type:</b>	Reexam (Third Party)

### Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$12000
RAM confirmation Number	7670
Deposit Account	181945
Authorized User	BAUGHMAN, STEVEN

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_A_US8023580_Bremer.pdf	1374505	no	19
			0434b4d0a698d81ebac96112adb417668c72c557		

**Warnings:**

**Information:**

2	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_C_US8023580_Prosecution_History.pdf	16533518	no	424
			a23f53a4097e5ae6b1a412767af073a51896d169		

**Warnings:**

**Information:**

3	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_D_US5982807_Snell.pdf	1052194	no	16
			fbfe0015e0bfabfcc8e63dc3a8e8aaab12e54099		

**Warnings:**

**Information:**

4	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_H_US6075814_Yamano.pdf	1809503	no	24
			14a396002760612fae7e9933ed896c5554f5ad3b		

**Warnings:**

**Information:**

5	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_G_Mears_Decl_and_Upend er.pdf	5397882	no	12
			c00bf38d68856317ac68c153091e76edce67896f		

**Warnings:**

**Information:**

6	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_I_Kamerma.pdf	1084692	no	12
			6b8e686c52b581a67b7cf9682d8561be954f50e7		

**Warnings:**

**Information:**

7	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_B_US12543910.pdf	2059816	no	55
			7b6ca68f972c14874f145a9e18b9e2f74d646b0		
<b>Warnings:</b>					
<b>Information:</b>					
8	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_E_Harris_AN9614.pdf	3907873	no	3
			80048f185afc4837c5d0d1b9c1172b1a288b724		
<b>Warnings:</b>					
<b>Information:</b>					
9	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_J_US6614838_June_28_2001_OA.pdf	794930	no	6
			01dd5a7591959c1a7212b6eb44cd6337472d11e6		
<b>Warnings:</b>					
<b>Information:</b>					
10	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_K_US6614838_Oct_1_2001_Response.pdf	952745	no	9
			955d26fe9607f728c8cee8ac5b6170b1e5c162be		
<b>Warnings:</b>					
<b>Information:</b>					
11	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_F_Harris_4064_4.pdf	9185991	no	40
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<b>Warnings:</b>					
<b>Information:</b>					
12	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_O_2013-07-05-Rembrandts_Infringement_Co ntentions_ Excerpted.pdf	946043	no	27
			61d89d202dca9cd40a8fef9f3cafff651a2ea6		
<b>Warnings:</b>					
<b>Information:</b>					
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<b>Warnings:</b>					
<b>Information:</b>					

14	Reexam - Info Disclosure Statement Filed by 3rd Party	SB08.pdf	131552	no	2
			85d9097dd16acd3da78893ee625766b8ade482f1		
<b>Warnings:</b>					
<b>Information:</b>					
15	Copy of patent for which reexamination is requested	Copy_Patent_US8023580_Bremer.pdf	1379445	no	19
			baf75241258e55c1ad7119ed5f451899eae1fe7		
<b>Warnings:</b>					
<b>Information:</b>					
16	Receipt of Original Ex Parte Reexam Request	Request.pdf	1260052	no	127
			3f928cfb61af22ef76a00c8d37c6511ead1ec51e		
<b>Warnings:</b>					
<b>Information:</b>					
17	Reexam Certificate of Service	COS_2.pdf	96271	no	3
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<b>Warnings:</b>					
<b>Information:</b>					
18	Receipt of Orig. Ex Parte Request by Third Party	Transmittal_2.pdf	207230	no	3
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<b>Warnings:</b>					
<b>Information:</b>					
19	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_M_US8023580_TD_filed_12_4_14.pdf	175155	no	2
			be3fd4bbc94bac20ed01e9a6a280be46f69f2355		
<b>Warnings:</b>					
<b>Information:</b>					
20	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_N_US8023580_TD_Filed_12_15_14.pdf	125690	no	2
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<b>Warnings:</b>					
<b>Information:</b>					

21	Reexam - Affidavit/Decl/Exhibit Filed by 3rd Party	Ex_L_US5982807_Snell_File_Hi story_Part2_labeled.pdf	22920296	no	125
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**Warnings:**

**Information:**

22	Fee Worksheet (SB06)	fee-info.pdf	30239	no	2
			af00e68807947eccd7c5d97b7ed4e8ae5df9 e444		

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	87942618
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**




**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNITED STATES DEPARTMENT OF COMMERCE  
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 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

**BIB DATA SHEET**
**CONFIRMATION NO. 2211**

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
90/013,808	09/12/2016	375	3992	110797-0019-501		
<b>APPLICANTS</b> <b>INVENTORS</b> 8023580, Residence Not Provided; REMBRANDT WIRELESS TECHNOLOGIES, LP, ARLINGTON, VA; SAMSUNG ELECTRONICS CO., LTD. (3RD PTY REQ.), GYEONGGI-DO, KOREA, REPUBLIC OF; SAMSUNG ELECTRONICS AMERICA, INC. (3RD PTY REQ.), RIDGEFIELD PARK, NJ; ROPES & GRAY LLP PRUDENTIAL TOWER, BOSTON, MA <b>** CONTINUING DATA *****</b> This application is a REX of 12/543,910 08/19/2009 PAT 8023580 which is a CON of 11/774,803 07/09/2007 PAT 7675965 which is a CON of 10/412,878 04/14/2003 PAT 7248626 which is a CIP of 09/205,205 12/04/1998 PAT 6614838 which claims benefit of 60/067,562 12/05/1997 <b>** FOREIGN APPLICATIONS *****</b> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **</b>						
Foreign Priority claimed <input type="checkbox"/> Yes <input type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input type="checkbox"/> No Verified and Acknowledged _____ Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	<b>STATE OR COUNTRY</b>	<b>SHEETS DRAWINGS</b>	<b>TOTAL CLAIMS</b> 79	<b>INDEPENDENT CLAIMS</b> 7
<b>ADDRESS</b> Condo Roccia Koptiw LLP 1800 JFK Boulevard Suite 1700 Philadelphia, PA 19103 UNITED STATES						
<b>TITLE</b> SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS						
<b>FILING FEE RECEIVED</b> 12000	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

# Patent Assignment Abstract of Title

**Total Assignments: 1**

**Application #:** 12543910      **Filing Dt:** 08/19/2009      **Patent #:** 8023580      **Issue Dt:** 09/20/2011  
**PCT #:** NONE      **Intl Reg #:**      **Publication #:** US20100183055      **Pub Dt:** 07/22/2010  
**Inventor:** Gordon F. Bremer  
**Title:** SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS

**Assignment: 1**

**Reel/Frame:** 027085 / 0636      **Received:** 10/19/2011      **Recorded:** 10/19/2011      **Mailed:** 10/19/2011      **Pages:** 4

**Conveyance:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Assignor:** SUMMIT TECHNOLOGY SYSTEMS, LP

**Exec Dt:** 10/03/2011

**Assignee:** REMBRANDT WIRELESS TECHNOLOGIES, LP

1655 NORTH FORT MEYERS DRIVE  
SUITE 700  
ARLINGTON, VIRGINIA 22209

**Correspondent:** THOMAS, KAYDEN, HORSTEMEYER & RISLEY LLP  
400 INTERSTATE NORTH PARKWAY SE  
SUITE 1500  
ATLANTA, GA 30339

Search Results as of: 09/13/2016 08:40 AM

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If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350. v.2.5  
Web interface last modified: Aug 20, 2015 v.2.5



UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office  
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REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/013,808	09/12/2016	8023580

ROPES & GRAY LLP PRUDENTIAL TOWER  
IPRM DOCKETING - FLOOR 43  
800 BOYLSTON STREET  
BOSTON, MA 02199-3600

**CONFIRMATION NO. 2211**  
**REEXAMINATION REQUEST**  
**NOTICE**



Date Mailed: 09/19/2016

**NOTICE OF REEXAMINATION REQUEST FILING DATE**

*(Third Party Requester)*

Requester is hereby notified that the filing date of the request for reexamination is 09/12/2016, the date that the filing requirements of 37 CFR § 1.510 were received.

A decision on the request for reexamination will be mailed within three months from the filing date of the request for reexamination. (See 37 CFR 1.515(a)).

A copy of the Notice is being sent to the person identified by the requester as the patent owner. Further patent owner correspondence will be the latest attorney or agent of record in the patent file. (See 37 CFR 1.33). Any paper filed should include a reference to the present request for reexamination (by Reexamination Control Number).

cc: Patent Owner  
15027  
Condo Roccia Koptiw LLP  
1800 JFK Boulevard  
Suite 1700  
Philadelphia, PA 19103

/rbell/

\_\_\_\_\_  
Legal Instruments Examiner  
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 3 columns: REEXAM CONTROL NUMBER (90/013,808), FILING OR 371 (c) DATE (09/12/2016), PATENT NUMBER (8023580)

CONFIRMATION NO. 2211
REEXAM ASSIGNMENT NOTICE



15027
Condo Roccia Koptiw LLP
1800 JFK Boulevard
Suite 1700
Philadelphia, PA 19103

Date Mailed: 09/19/2016

NOTICE OF ASSIGNMENT OF REEXAMINATION REQUEST

The above-identified request for reexamination has been assigned to Art Unit 3992. All future correspondence to the proceeding should be identified by the control number listed above and directed to the assigned Art Unit.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or to all owners of record. (See 37 CFR 1.33(c)). If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned within the request to withdraw pursuant to Section 1.36.

NOTICE OF USPTO EX PARTE REEXAMINATION PATENT OWNER STATEMENT WAIVER PROGRAM

The USPTO has implemented a pilot program where, after a reexamination proceeding has been granted a filing date and before the examiner begins his or her review, the patent owner may orally waive the right to file a patent owner's statement. See "Pilot Program for Waiver of Patent Owner's Statement in Ex Parte Reexamination Proceedings," 75 FR 47269 (August 5, 2010). One goal of the pilot program is to reduce the pendency of reexamination proceedings and improve the efficiency of the reexamination process.

Ordinarily when ex parte reexamination is ordered, the USPTO must wait until after the receipt of the patent owner's statement and the third party requester's reply, or after the expiration of the time period for filing the statement and reply (a period that can be as long as 5 to 6 months), before mailing a first determination of patentability. The USPTO's first determination of patentability is usually a first Office action on the merits or a Notice of Intent to Issue Reexamination Certificate (NIRC).

Under the pilot program, the patent owner's oral waiver allows the USPTO to act on the first determination of patentability immediately after determining that reexamination will be ordered, and in a suitable case issue the reexamination order and the first determination of patentability (which could be a NIRC if the claims under reexamination are confirmed) at the same time.

Benefits to the Patent Owner for participating in this pilot program include reduction in pendency.

To participate in this pilot program, Patent Owners may contact the USPTO's Central Reexamination Unit (CRU) at 571-272-7705. The USPTO will make the oral waiver of record in the reexamination file in an interview summary and a copy will be mailed to the patent owner and any third party requester.

cc: Third Party Requester(if any)
ROPES & GRAY LLP PRUDENTIAL TOWER
IPRM DOCKETING - FLOOR 43
800 BOYLSTON STREET
BOSTON, MA 02199-3600

/rbell/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

# Litigation Search Report CRU 3999

Reexam Control No. 90/013,808

TO:  
Location: CRU  
Art Unit: 3999  
Date: September 19, 2016

From: Patricia Martin  
Paralegal Specialist  
Location: CRU 3999  
Phone: (571) 272-7705

U.S. Patent Number: 8,023,580

## Search Notes

- 1) I performed a search on the patent in Lexis Court Link for any open dockets or closed cases.
- 2) I performed a Key Cite Search in Westlaw, which retrieves all history on the patent including any litigation.
- 3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.
- 4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.
- 5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

**Litigation was found involving:**

Single Search - with Terms and Connectors

Enter keywords - Search multiple dockets & documents  Info

- 
- 
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- 

Search > Patent Search > Litigation involving patent 8,023,580

Click a docket number below to view a docket.

Patent Search Results

This search was run on 9/19/2016

Results: 7 cases and their patents, totaling 7 items.

[Printer Friendly List](#)  
[Email List](#)  
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Items 1 to 7 of 7

<input type="checkbox"/>	Patent	Class	Subclass	Description	Court <small>All</small>	Docket Number	Filed	Date Retrieved
<input type="checkbox"/>	8,023,580	-	-	Samsung Electronics Co. Ltd. Vs. Rembrandt Wireless Technologies, LP	US-PTO-ALE	IPR2015-00114	10/21/2014	10/21/2014
<input type="checkbox"/>	8,023,580	-	-	Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP	US-PTO-ALE	IPR2015-00118	10/21/2014	10/21/2014
<input type="checkbox"/>	8,023,580	-	-	Samsung Electronics Co. Ltd. Vs. Rembrandt Wireless Technologies, LP	US-PTO-ALE	IPR2014-00514	3/20/2014	7/31/2014
<input type="checkbox"/>	8,023,580	-	-	Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP	US-PTO-ALE	IPR2014-00515	3/20/2014	7/31/2014
<input type="checkbox"/>	8,023,580	-	-	Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP	US-PTO-ALE	IPR2014-00518	3/20/2014	7/31/2014
<input type="checkbox"/>	8,023,580	-	-	Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP	US-PTO-ALE	IPR2014-00519	3/20/2014	7/31/2014
<input type="checkbox"/>	8,023,580	375	261	Rembrandt Wireless Technologies, Lp V. Samsung Electronics Co. Ltd., Et Al	US-DIS-TXED	2:13cv213	3/15/2013	8/31/2016

Items 1 to 7 of 7

[Printer Friendly List](#)  
[Email List](#)  
[Customize List](#)

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## United States Patent Trial and Appeals Board

US Patent Trial and Appeals Board - Alexandria  
(Alexandria)

**IPR2015-00114**

**Samsung Electronics Co. Ltd. Vs. Rembrandt Wireless Technologies, LP**

This case was retrieved from the court on Tuesday, October 20, 2015

---

### Header

Case Number: IPR2015-00114  
Date Filed: 10/21/2014  
Date Full Case Retrieved: 10/20/2015  
Status: Open  
Misc: Civil

[Summary][Participants][Proceedings]

### Summary

Court Case Status: Not Instituted  
Case Type: IPR: Inter partes review  
Date of Decision to Institute Case: 1/28/2015  
Technical Center Number: 2600  
Patent Application Number: 12543910  
Patent Number: 8023580

### Participants

#### **Litigants**

Samsung Electronics Co. Ltd.  
Petitioner

Rembrandt Wireless Technologies, LP  
PatentOwner

### Proceedings

<b><u>File Date</u></b>	<b><u>Details</u></b>	<b><u>Document Type</u></b>	<b><u>Paper/ Exhibit No.</u></b>	<b><u>Filed By</u></b>	<b><u>Public?</u></b>
10/21/2014	Petition for InterPartes Review of US Patent 8,023,580	Petition	1	Petitioner	Yes
10/21/2014	Power of Attorney	Power of Attorney	2	Petitioner	Yes
10/21/2014	Motion for Joinder to IPR2014-00518	Motion	3	Petitioner	Yes
10/21/2014	US Patent 8,023,580	Exhibit	1201	Petitioner	Yes
10/21/2014	Rembrandt Complaint for Patent Infringement	Exhibit	1202	Petitioner	Yes
10/21/2014	Summons in a Civil Action	Exhibit	1203	Petitioner	Yes
10/21/2014	Boer US Patent 5,706,428	Exhibit	1204	Petitioner	Yes

10/21/2014	Rembrandt's Infringement Contentions	Exhibit	1205	Petitioner	Yes
10/21/2014	IEEE Dictionary excerpt	Exhibit	1206	Petitioner	Yes
10/21/2014	Patent Application	Exhibit	1207	Petitioner	Yes
10/21/2014	Office Action 09-01-2010	Exhibit	1208	Petitioner	Yes
10/21/2014	Reply 03-01-2011	Exhibit	1209	Petitioner	Yes
10/21/2014	Response 03-10-2011	Exhibit	1210	Petitioner	Yes
10/21/2014	Supplemental Amendment 05-11-2011	Exhibit	1211	Petitioner	Yes
10/21/2014	Notice of Allowance 07-22-2011	Exhibit	1212	Petitioner	Yes
10/21/2014	Amendment After Allowance 07-26-2011	Exhibit	1213	Petitioner	Yes
10/21/2014	US Patent 6,614,838	Exhibit	1214	Petitioner	Yes
10/21/2014	Office Action 06-28-2001	Exhibit	1215	Petitioner	Yes
10/21/2014	Response 10-01-2001	Exhibit	1216	Petitioner	Yes
10/21/2014	Joint Claim Construction Statement	Exhibit	1217	Petitioner	Yes
10/21/2014	Mears Declaration	Exhibit	1218	Petitioner	Yes
10/21/2014	Dictionary of Communications Tech excerpt	Exhibit	1219	Petitioner	Yes
10/21/2014	Goodman Declaration 03-19-2014	Exhibit	1220	Petitioner	Yes
10/21/2014	Goodman 2nd Declaration 10-17-2014	Exhibit	1221	Petitioner	Yes
10/29/2014	Notice of Filing Date Accorded	Notice of Filing Date Accorded to Petition	4	Board	Yes
10/30/2014	Order - Conduct of the Proceedings	Order	5	Board	Yes
10/31/2014	Power of Attorney	Power of Attorney	6	Potential Patent Owner	Yes
10/31/2014	Related Matters	Notice	7	Potential Patent Owner	Yes
11/08/2014	PO Opposition to Motion for Joinder	Opposition	8	Patent Owner	Yes
11/18/2014	Petitioner Reply to PO Opposition To Motion For Joinder	Reply	9	Petitioner	Yes
12/01/2014	Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. 42.107	Preliminary Response	10	Patent Owner	Yes
12/01/2014	Exhibit 2001	Exhibit	2001	Patent Owner	Yes
12/01/2014	Exhibit 2002	Exhibit	2002	Patent Owner	Yes
12/01/2014	Exhibit 2003	Exhibit	2003	Patent Owner	Yes
12/01/2014	Exhibit 2004	Exhibit	2004	Patent Owner	Yes
12/01/2014	Exhibit 2005	Exhibit	2005	Patent Owner	Yes
12/10/2014	Patent Owner's Supplemental Mandatory Notice Information Under 37 C.F.R. 42.8	Notice	11	Patent Owner	Yes
01/06/2015	Supplemental Mandatory Notice	Notice	12	Petitioner	Yes
01/09/2015	Supplemental Mandatory Notice	Notice	13	Petitioner	Yes
01/28/2015	Institution Decision	Institution Decision	14	Board	Yes
01/30/2015	PO Supplemental Mandatory Notice	Notice	15	Patent Owner	Yes
03/10/2015	IPR2015-00114 - Refund request	Refund Request	16	Petitioner	Yes
03/19/2015	Noticeo fo Refund	Notice	17	Board	Yes





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## United States Patent Trial and Appeals Board

US Patent Trial and Appeals Board - Alexandria  
(Alexandria)

**IPR2015-00118**

**Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP**

This case was retrieved from the court on Tuesday, October 20, 2015

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### Header

Case Number: IPR2015-00118  
Date Filed: 10/21/2014  
Date Full Case Retrieved: 10/20/2015  
Status: Open  
Misc: Civil

[Summary][Participants][Proceedings]

### Summary

Court Case Status: Not Instituted  
Case Type: IPR: Inter partes review  
Date of Decision to Institute Case: 1/28/2015  
Technical Center Number: 2600  
Patent Application Number: 12543910  
Patent Number: 8023580

### Participants

#### **Litigants**

Samsung Electronics Co., Ltd.  
Petitioner

Rembrandt Wireless Technologies, LP  
PatentOwner

### Proceedings

<b><u>File Date</u></b>	<b><u>Details</u></b>	<b><u>Document Type</u></b>	<b><u>Paper/ Exhibit No.</u></b>	<b><u>Filed By</u></b>	<b><u>Public?</u></b>
10/21/2014	Petition for Inter Partes Review of U.S. Patent No. 8,023,580	Petition	1	Petitioner	Yes
10/21/2014	Power of Attorney	Power of Attorney	2	Petitioner	Yes
10/21/2014	Motion for Joinder to IPR2014-00519	Motion	3	Petitioner	Yes
10/21/2014	US Patent 8,023,580	Exhibit	1301	Petitioner	Yes
10/21/2014	Rembrandt Complaint	Exhibit	1302	Petitioner	Yes
10/21/2014	Summons in a Civil Action	Exhibit	1303	Petitioner	Yes
10/21/2014	Boer US Patent 5,706,428	Exhibit	1304	Petitioner	Yes

10/21/2014	Rembrandt Infringement Contention	Exhibit	1305	Petitioner	Yes
10/21/2014	IEEE Dictionary excerpt	Exhibit	1306	Petitioner	Yes
10/21/2014	Patent Application	Exhibit	1307	Petitioner	Yes
10/21/2014	Office Action	Exhibit	1308	Petitioner	Yes
10/21/2014	Reply	Exhibit	1309	Petitioner	Yes
10/21/2014	Response	Exhibit	1310	Petitioner	Yes
10/21/2014	Supplemental Amendment	Exhibit	1311	Petitioner	Yes
10/21/2014	Notice of Allowance	Exhibit	1312	Petitioner	Yes
10/21/2014	Amendment After Allowance	Exhibit	1313	Petitioner	Yes
10/21/2014	US Patent 6,614,838	Exhibit	1314	Petitioner	Yes
10/21/2014	Office Action 06-28-2001	Exhibit	1315	Petitioner	Yes
10/21/2014	Response 10-01-2001	Exhibit	1316	Petitioner	Yes
10/21/2014	Mears Declaration	Exhibit	1317	Petitioner	Yes
10/21/2014	Goodman Declaration 03-19-2014	Exhibit	1318	Petitioner	Yes
10/21/2014	Goodman 2nd Declaration 10-15-2014	Exhibit	1319	Petitioner	Yes
10/29/2014	Notice of Filing Date Accorded	Notice of Filing Date Accorded to Petition	4	Board	Yes
10/30/2014	Order - Conduct of the Proceedings	Order	5	Board	Yes
10/31/2014	Power of Attorney	Power of Attorney	6	Potential Patent Owner	Yes
10/31/2014	Related Matters	Notice	7	Potential Patent Owner	Yes
11/08/2014	PO Opposition to Motion for Joinder	Opposition	8	Patent Owner	Yes
11/18/2014	Petitioner Reply to PO Opposition To Motion For Joinder	Reply	9	Petitioner	Yes
12/01/2014	Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. 42.107	Preliminary Response	10	Patent Owner	Yes
12/01/2014	Exhibit 2001	Exhibit	2001	Patent Owner	Yes
12/01/2014	Exhibit 2002	Exhibit	2002	Patent Owner	Yes
12/01/2014	Exhibit 2003	Exhibit	2003	Patent Owner	Yes
12/01/2014	Exhibit 2004	Exhibit	2004	Patent Owner	Yes
12/10/2014	Patent Owner's Supplemental Mandatory Notice Information Under 37 C.F.R. 42.8	Notice	11	Patent Owner	Yes
01/06/2015	Supplemental Mandatory Notice	Notice	12	Petitioner	Yes
01/09/2015	Supplemental Mandatory Notice	Notice	13	Petitioner	Yes
01/28/2015	Institution Decision	Institution Decision	14	Board	Yes
01/30/2015	PO Supplemental Mandatory Notice	Notice	15	Patent Owner	Yes
03/10/2015	IPR2015-00118 - Refund request	Refund Request	16	Petitioner	Yes
04/07/2015	Notice of Refund	Notice	17	Board	Yes

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## United States Patent Trial and Appeals Board

US Patent Trial and Appeals Board - Alexandria  
(Alexandria)

**IPR2014-00514**

**Samsung Electronics Co. Ltd. Vs. Rembrandt Wireless Technologies, LP**

This case was retrieved from the court on Thursday, March 24, 2016

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### Header

Case Number: IPR2014-00514  
Date Filed: 03/20/2014  
Date Full Case Retrieved: 03/24/2016  
Status: Open  
Misc: Civil

[Summary][Participants][Proceedings]

### Summary

Court Case Status: Not Instituted  
Case Type: IPR: Inter partes review  
Date of Decision to Institute Case: 9/9/2014  
Technical Center Number: 2600  
Patent Application Number: 12543910  
Patent Number: 8023580

### Participants

#### **Litigants**

Samsung Electronics Co. Ltd.  
Petitioner

Rembrandt Wireless Technologies, LP  
PatentOwner

### Proceedings

<u>File Date</u>	<u>Details</u>	<u>Document Type</u>	<u>Paper/ Exhibit No.</u>	<u>Filed By</u>	<u>Public?</u>
03/20/2014	Petition for Inter Partes Review of U.S. Patent No. 8,023,580	Petition	1	Petitioner	Yes
03/20/2014	Power of Attorney	Power of Attorney	2	Petitioner	Yes
03/20/2014	Patent No. US 8,023,580	Exhibit	1001	Petitioner	Yes
03/20/2014	Complaint	Exhibit	1002	Petitioner	Yes
03/20/2014	Proof of Service	Exhibit	1003	Petitioner	Yes
03/20/2014	O'Hara Declaration	Exhibit	1004	Petitioner	Yes
03/20/2014	Draft 802.11 Std.	Exhibit	1005	Petitioner	Yes

03/20/2014	802.11 Std.	Exhibit	1006	Petitioner	Yes
03/20/2014	Infringement Contentions	Exhibit	1007	Petitioner	Yes
03/20/2014	IEEE Dictionary	Exhibit	1008	Petitioner	Yes
03/20/2014	App. as filed	Exhibit	1009	Petitioner	Yes
03/20/2014	Oa	Exhibit	1010	Petitioner	Yes
03/20/2014	3.1.2011 Reply	Exhibit	1011	Petitioner	Yes
03/20/2014	3.10.2011 Response	Exhibit	1012	Petitioner	Yes
03/20/2014	5.11.2011 Supplemental Amendment	Exhibit	1013	Petitioner	Yes
03/20/2014	Notice of Allowances and Fees Due	Exhibit	1014	Petitioner	Yes
03/20/2014	Amendment After Allowance	Exhibit	1015	Petitioner	Yes
03/20/2014	Boer US5706428	Exhibit	1016	Petitioner	Yes
03/20/2014	Draft Joint Claim Construction Statement	Exhibit	1017	Petitioner	Yes
03/20/2014	Commucations dictionary master slave	Exhibit	1018	Petitioner	Yes
03/20/2014	Goodman Declaration	Exhibit	1019	Petitioner	Yes
04/03/2014	Notice of Filing Date Accorded to Petition	Notice of Filing Date Accorded to Petition	3	Board	Yes
04/03/2014	Amended Petition for Inter Partes Review	Notice	4	Petitioner	Yes
04/08/2014	Notice of Accepting Corrected Petition	Notice	5	Board	Yes
04/18/2014	Power of Attorney	Power of Attorney	6	Potential Patent Owner	Yes
04/18/2014	Related Matters	Notice	7	Potential Patent Owner	Yes
05/13/2014	Order - Authorizing Counsel for Patent Owner to file Motion to Withdraw	Order	8	Board	Yes
05/13/2014	Power of Attorney	Power of Attorney	9	Potential Patent Owner	Yes
05/13/2014	Related Matters	Notice	10	Potential Patent Owner	Yes
05/19/2014	Motion_For_Withdrawal	Motion	11	Patent Owner	Yes
05/20/2014	Order - Conduct of the Proceedings - 37 CFR 42.5	Order	12	Board	Yes
06/20/2014	PO Supplemental Mandatory Notice	Notice	13	Patent Owner	Yes
07/03/2014	Preliminary Response	Preliminary Response	14	Patent Owner	Yes
07/03/2014	Exhibit 2001	Exhibit	2001	Patent Owner	Yes
07/03/2014	Exhibit 2002	Exhibit	2002	Patent Owner	Yes
07/03/2014	Exhibit 2003	Exhibit	2003	Patent Owner	Yes
07/03/2014	Exhibit 2004	Exhibit	2004	Patent Owner	Yes
07/03/2014	Exhibit 2005	Exhibit	2005	Patent Owner	Yes
07/03/2014	Exhibit 2006	Exhibit	2006	Patent Owner	Yes
07/03/2014	Exhibit 2007	Exhibit	2007	Patent Owner	Yes
07/03/2014	Exhibit 2008	Exhibit	2008	Patent Owner	Yes
07/03/2014	Exhibit 2009	Exhibit	2009	Patent	Yes

07/03/2014	Exhibit 2010	Exhibit	2010	Owner Patent Owner	Yes
07/03/2014	Exhibit 2011	Exhibit	2011	Patent Owner	Yes
07/03/2014	Exhibit 2012	Exhibit	2012	Patent Owner	Yes
07/03/2014	Exhibit 2013	Exhibit	2013	Patent Owner	Yes
07/22/2014	Order - Conduct of the Proceedings - 37 CFR 42.5	Order	15	Board	Yes
07/29/2014	Samsung Supplemental Exhibit List	Notice	16	Petitioner	Yes
07/29/2014	Transcript of 2014.07.21 Telephonic Conference Call	Exhibit	1020	Petitioner	Yes
07/31/2014	District Court Claim Construction	Notice	17	Patent Owner	Yes
09/09/2014	Decision - Denying Institution of Inter Partes Review	Institution Decision	18	Board	Yes
10/08/2014	Petitioners Request For Rehearing	Rehearing Request	19	Petitioner	Yes
10/24/2014	Decision - Request for Rehearing	Rehearing Decision	20	Board	Yes
12/02/2014	Petitioners Request for Refund	Notice	21	Petitioner	Yes
12/03/2014	Notice of Refund	Refund Approval	22	Board	Yes

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## United States Patent Trial and Appeals Board

US Patent Trial and Appeals Board - Alexandria  
(Alexandria)

**IPR2014-00515**

**Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP**

This case was retrieved from the court on Thursday, March 24, 2016

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### Header

Case Number: IPR2014-00515  
Date Filed: 03/20/2014  
Date Full Case Retrieved: 03/24/2016  
Status: Open  
Misc: Civil

[Summary][Participants][Proceedings]

### Summary

Court Case Status: Not Instituted  
Case Type: IPR: Inter partes review  
Date of Decision to Institute Case: 9/9/2014  
Technical Center Number: 2600  
Patent Application Number: 12543910  
Patent Number: 8023580

### Participants

#### **Litigants**

Samsung Electronics Co., Ltd.  
Petitioner

Rembrandt Wireless Technologies, LP  
PatentOwner

### Proceedings

<u>File Date</u>	<u>Details</u>	<u>Document Type</u>	<u>Paper/ Exhibit No.</u>	<u>Filed By</u>	<u>Public?</u>
03/20/2014	Petition for Inter Partes Review of U.S. Patent No. 8,023,580	Petition	1	Petitioner	Yes
03/20/2014	Power of Attorney	Power of Attorney	2	Petitioner	Yes
03/20/2014	U.S. Patent No. 8,023,580	Exhibit	1101	Petitioner	Yes
03/20/2014	Complaint	Exhibit	1102	Petitioner	Yes
03/20/2014	Proof of Service	Exhibit	1103	Petitioner	Yes
03/20/2014	O'Hara Declaration	Exhibit	1104	Petitioner	Yes
03/20/2014	Draft 802.11 Std.	Exhibit	1105	Petitioner	Yes

03/20/2014	802.11 Std.	Exhibit	1106	Petitioner	Yes
03/20/2014	Infringement Contentions	Exhibit	1107	Petitioner	Yes
03/20/2014	IEEE Dictionary	Exhibit	1108	Petitioner	Yes
03/20/2014	App as filed	Exhibit	1109	Petitioner	Yes
03/20/2014	Oa	Exhibit	1110	Petitioner	Yes
03/20/2014	3.1.2011 Reply	Exhibit	1111	Petitioner	Yes
03/20/2014	3.10.2011 Response	Exhibit	1112	Petitioner	Yes
03/20/2014	Supplemental Amendment	Exhibit	1113	Petitioner	Yes
03/20/2014	Notice of Allowance and Fees Due	Exhibit	1114	Petitioner	Yes
03/20/2014	Amendment after Allowance	Exhibit	1115	Petitioner	Yes
03/20/2014	Goodman Declaration	Exhibit	1116	Petitioner	Yes
04/03/2014	Notice of Filing Date Accorded to Petition	Notice of Filing Date Accorded to Petition	3	Board	Yes
04/03/2014	Amended Petition for Inter Partes Review	Notice	4	Petitioner	Yes
04/08/2014	Notice of Accepting Corrected Petition	Notice	5	Board	Yes
04/18/2014	Power of Attorney	Power of Attorney	6	Potential Patent Owner	Yes
04/18/2014	Related Matters	Notice	7	Potential Patent Owner	Yes
05/13/2014	Order - Authorizing Counsel for Patent Owner to file Motion to Withdraw	Order	8	Board	Yes
05/13/2014	Power of Attorney	Power of Attorney	9	Potential Patent Owner	Yes
05/13/2014	Related Matters	Notice	10	Potential Patent Owner	Yes
05/19/2014	Motion_for_Withdrawal	Motion	11	Patent Owner	Yes
05/20/2014	Order - Conduct of the Proceedings - 37 CFR 42.5	Order	12	Board	Yes
06/20/2014	PO Supplemental Mandatory Notice	Notice	13	Patent Owner	Yes
07/03/2014	Preliminary Response	Preliminary Response	14	Patent Owner	Yes
07/03/2014	Exhibit 2101	Exhibit	2101	Patent Owner	Yes
07/03/2014	Exhibit 2102	Exhibit	2102	Patent Owner	Yes
07/03/2014	Exhibit 2103	Exhibit	2103	Patent Owner	Yes
07/03/2014	Exhibit 2104	Exhibit	2104	Patent Owner	Yes
07/03/2014	Exhibit 2105	Exhibit	2105	Patent Owner	Yes
07/03/2014	Exhibit 2106	Exhibit	2106	Patent Owner	Yes
07/03/2014	Exhibit 2107	Exhibit	2107	Patent Owner	Yes
07/03/2014	Exhibit 2108	Exhibit	2108	Patent Owner	Yes
07/22/2014	Order - Conduct of the Proceedings - 37 CFR 42.5	Order	15	Board	Yes
07/29/2014	Samsung Supplemental Exhibit List	Notice	16	Petitioner	Yes
07/29/2014	Transcript of 2014.07.21 Telephonic	Exhibit	1117	Petitioner	Yes



Conference Call					
07/31/2014	District Court Claim Construction	Notice	17	Patent Owner	Yes
09/09/2014	Decision - Denying Institution of Inter Partes Review	Institution Decision	18	Board	Yes
10/08/2014	Petitioners Request For Rehearing	Rehearing Request	19	Petitioner	Yes
10/24/2014	Decision on Request for Rehearing	Rehearing Decision	20	Board	Yes
12/02/2014	Petitioners Request for Refund	Refund Request	21	Petitioner	Yes
12/03/2014	Notice of Refund	Refund Approval	22	Board	Yes

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## United States Patent Trial and Appeals Board

US Patent Trial and Appeals Board - Alexandria  
(Alexandria)

**IPR2014-00518**

**Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP**

This case was retrieved from the court on Thursday, March 24, 2016

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### Header

Case Number: IPR2014-00518  
Date Filed: 03/20/2014  
Date Full Case Retrieved: 03/24/2016  
Status: Closed  
Misc: Civil

[Summary][Participants][Proceedings]

### Summary

Court Case Status: Final Decision  
Case Type: IPR: Inter partes review  
Date of Decision to Institute Case: 9/23/2014  
Technical Center Number: 2600  
Patent Application Number: 12543910  
Patent Number: 8023580

### Participants

#### **Litigants**

Samsung Electronics Co., Ltd.  
Petitioner

Rembrandt Wireless Technologies, LP  
PatentOwner

### Proceedings

<u>File Date</u>	<u>Details</u>	<u>Document Type</u>	<u>Paper/ Exhibit No.</u>	<u>Filed By</u>	<u>Public?</u>
03/20/2014	Petition for Inter Partes Review of U.S. Patent No. 8,023,580	Petition	1	Petitioner	Yes
03/20/2014	Power of Attorney	Power of Attorney	2	Petitioner	Yes
03/20/2014	U.S. Patent No. 8,023,580	Exhibit	1201	Petitioner	Yes
03/20/2014	Complaint	Exhibit	1202	Petitioner	Yes
03/20/2014	Proof of Service	Exhibit	1203	Petitioner	Yes
03/20/2014	Boer US5706428	Exhibit	1204	Petitioner	Yes
03/20/2014	Infringement Contentions	Exhibit	1205	Petitioner	Yes

03/20/2014	IEEE Dictionary	Exhibit	1206	Petitioner	Yes
03/20/2014	App as filed	Exhibit	1207	Petitioner	Yes
03/20/2014	Oa	Exhibit	1208	Petitioner	Yes
03/20/2014	3.1.2011 Reply	Exhibit	1209	Petitioner	Yes
03/20/2014	3.10.2011 Response	Exhibit	1210	Petitioner	Yes
03/20/2014	5.11.2011 Supplemental Amendment	Exhibit	1211	Petitioner	Yes
03/20/2014	Notice of Allowance and Fees Due	Exhibit	1212	Petitioner	Yes
03/20/2014	Amendment after Allowance	Exhibit	1213	Petitioner	Yes
03/20/2014	U.S. Patent 6,614,838	Exhibit	1214	Petitioner	Yes
03/20/2014	838 June 28 2001 OA	Exhibit	1215	Petitioner	Yes
03/20/2014	Octobet 1, 2001 Response	Exhibit	1216	Petitioner	Yes
03/20/2014	Proposed Constructions	Exhibit	1217	Petitioner	Yes
03/20/2014	Mears Declaration and Upender	Exhibit	1218	Petitioner	Yes
03/20/2014	Communications Dictionary Master Slave	Exhibit	1219	Petitioner	Yes
03/20/2014	Goodman Declaration	Exhibit	1220	Petitioner	Yes
04/03/2014	Notice of Filing Date Accorded to Petition	Notice of Filing Date Accorded to Petition	3	Board	Yes
04/03/2014	Amended Petition for Inter Partes Review	Notice	4	Petitioner	Yes
04/08/2014	Notice of Accepting Corrected Petition	Notice	5	Board	Yes
04/18/2014	Power of Attorney	Power of Attorney	6	Potential Patent Owner	Yes
04/18/2014	Related Matters	Notice	7	Potential Patent Owner	Yes
05/13/2014	Order - Authorizing Counsel for Patent Owner to file Motion to Withdraw	Order	8	Board	Yes
05/13/2014	Power of Attorney	Power of Attorney	9	Potential Patent Owner	Yes
05/13/2014	Related Matters	Notice	10	Potential Patent Owner	Yes
05/19/2014	Motion_For_Withdrawal	Motion	11	Patent Owner	Yes
05/20/2014	Order - Conduct of the Proceedings - 37 CFR 42.5	Order	12	Board	Yes
06/20/2014	PO Supplemental Mandatory Notice	Notice	13	Patent Owner	Yes
07/03/2014	Preliminary Response	Preliminary Response	14	Patent Owner	Yes
07/03/2014	Exhibit 2201	Exhibit	2201	Patent Owner	Yes
07/03/2014	Exhibit 2202	Exhibit	2202	Patent Owner	Yes
07/03/2014	Exhibit 2203	Exhibit	2203	Patent Owner	Yes
07/03/2014	Exhibit 2204	Exhibit	2204	Patent Owner	Yes
07/03/2014	Exhibit 2205	Exhibit	2205	Patent Owner	Yes
07/03/2014	Exhibit 2206	Exhibit	2206	Patent Owner	Yes
07/03/2014	Exhibit 2207	Exhibit	2207	Patent Owner	Yes
07/31/2014	District Court Claim Construction	Notice	15	Patent Owner	Yes

09/23/2014	Decision - Institution of Inter Partes Review	Institution Decision	16	Board	Yes
09/23/2014	Scheduling Order	Order	17	Board	Yes
10/10/2014	PO Proposed Motions	Notice	18	Patent Owner	Yes
10/10/2014	Petitioner Proposed Motions	Notice	19	Petitioner	Yes
10/20/2014	ORDER Conduct of the Proceeding	Notice	20	Board	Yes
10/27/2014	Notice of Goodman Deposition	Notice	21	Patent Owner	Yes
10/31/2014	Supplemental Mandatory Notice	Notice	22	Patent Owner	Yes
11/05/2014	Power of Attorney	Power of Attorney	23	Patent Owner	Yes
11/05/2014	Supplemental Mandatory Notice	Notice	24	Patent Owner	Yes
12/01/2014	Patent Owner's Response Pursuant to 37 C.F.R. 42.120	Opposition	25	Patent Owner	Yes
12/01/2014	Exhibit 2208	Exhibit	2208	Patent Owner	Yes
12/01/2014	Exhibit 2209	Exhibit	2209	Patent Owner	Yes
12/01/2014	Exhibit 2210	Exhibit	2210	Patent Owner	Yes
12/01/2014	Exhibit 2211	Exhibit	2211	Patent Owner	Yes
12/01/2014	Exhibit 2212	Exhibit	2212	Patent Owner	Yes
12/01/2014	Exhibit 2213	Exhibit	2213	Patent Owner	Yes
12/01/2014	Exhibit 2214	Exhibit	2214	Patent Owner	Yes
12/01/2014	Exhibit 2215	Exhibit	2215	Patent Owner	Yes
12/01/2014	Exhibit 2216	Exhibit	2216	Patent Owner	Yes
12/01/2014	Exhibit 2217	Exhibit	2217	Patent Owner	Yes
12/10/2014	Patent Owner's Supplemental Mandatory Notice Information Under 37 C.F.R. 42.8	Notice	26	Patent Owner	Yes
12/29/2014	Notice of Deposition of Dr. Christopher Jones	Notice	27	Petitioner	Yes
12/29/2014	Notice of Deposition of Dr. Philip Koopman	Notice	28	Petitioner	Yes
01/06/2015	Supplemental Mandatory Notice	Notice	29	Petitioner	Yes
01/09/2015	Supplemental Mandatory Notice	Notice	30	Petitioner	Yes
01/30/2015	PO Supplemental Mandatory Notice	Notice	31	Patent Owner	Yes
02/06/2015	Petitioner Reply	Reply	32	Petitioner	Yes
02/06/2015	Jones Deposition Transcript	Exhibit	1221	Petitioner	Yes
02/06/2015	Notice of Deposition	Exhibit	1222	Petitioner	Yes
02/06/2015	U.S. Patent No. 8,457,228	Exhibit	1223	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1224	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1225	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1226	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1227	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1228	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1229	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1230	Petitioner	Yes
02/06/2015	Illustration Drawn by Dr. Jones	Exhibit	1231	Petitioner	Yes

02/06/2015	Data Network Evaluation Criteria	Exhibit	1232	Petitioner	Yes
02/06/2015	U.S. Patent No. 5,450,404	Exhibit	1233	Petitioner	Yes
02/06/2015	U.S. Patent No. 5,436,901	Exhibit	1234	Petitioner	Yes
02/06/2015	U.S. Patent No. 5,535,212	Exhibit	1235	Petitioner	Yes
02/06/2015	Order, Innovative Biometric Tech., LLC v Toshiba Am. Info. Sys.	Exhibit	1236	Petitioner	Yes
02/06/2015	Order, Innovative Biometric Tech., LLC v Lenovo (U.S.), Inc.	Exhibit	1237	Petitioner	Yes
02/06/2015	Koopman Deposition Transcript	Exhibit	1238	Petitioner	Yes
03/02/2015	Power of Attorney	Power of Attorney	33	Petitioner	Yes
03/20/2015	Petitioners Request for Oral Hearing	Notice	34	Petitioner	Yes
03/20/2015	Patent Owner's Request for Oral Argument	Notice	35	Patent Owner	Yes
03/20/2015	Power of Attorney	Power of Attorney	36	Petitioner	Yes
03/20/2015	Petitioners_ Motion to Withdraw As Counsel (IPR2014-00518)	Motion	37	Petitioner	Yes
03/20/2015	Petitioners_ Motion to Change Designation of Lead Counsel (IPR2014-00518)	Motion	38	Petitioner	Yes
03/25/2015	Petitioner's Unopposed Motion for Pro Hac Vice Admission of Brian P. Biddinger	Motion	39	Petitioner	Yes
03/26/2015	Order Conduct of Proceedings	Order	40	Board	Yes
03/27/2015	DECISION Petitioner's Motion for Pro Hac Vice Admission of Mr. Biddinger	Notice	41	Board	Yes
04/07/2015	Petitioners' Supplemental Mandatory Notice	Notice	42	Petitioner	Yes
04/16/2015	ORDER Trial Hearing Notice	Notice	43	Board	Yes
04/22/2015	Petitioners' Updated Exhibit List - 4-22-2015	Notice	44	Petitioner	Yes
04/22/2015	Patent Owner's Demonstratives and Updated Exhibit List	Notice	45	Patent Owner	Yes
04/22/2015	Petitioners' Demonstratives	Exhibit	1239	Petitioner	Yes
04/22/2015	Exhibit 2218 - Patent Owner's Demonstratives	Exhibit	2218	Patent Owner	Yes
07/20/2015	Record of Oral Hearing	Notice	46	Board	Yes
09/17/2015	Final Written Decision - 35 U.S.C. 318(a) and 37 C.F.R. 42.73	Final Decision	47	Board	Yes

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## United States Patent Trial and Appeals Board

US Patent Trial and Appeals Board - Alexandria  
(Alexandria)

**IPR2014-00519**

**Samsung Electronics Co., Ltd. Vs. Rembrandt Wireless Technologies, LP**

This case was retrieved from the court on Thursday, March 24, 2016

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### Header

Case Number: IPR2014-00519  
Date Filed: 03/20/2014  
Date Full Case Retrieved: 03/24/2016  
Status: Closed  
Misc: Civil

[Summary][Participants][Proceedings]

### Summary

Court Case Status: Final Decision  
Case Type: IPR: Inter partes review  
Date of Decision to Institute Case: 9/23/2014  
Technical Center Number: 2600  
Patent Application Number: 12543910  
Patent Number: 8023580

### Participants

#### **Litigants**

Samsung Electronics Co., Ltd.  
Petitioner

Rembrandt Wireless Technologies, LP  
PatentOwner

### Proceedings

<u>File Date</u>	<u>Details</u>	<u>Document Type</u>	<u>Paper/ Exhibit No.</u>	<u>Filed By</u>	<u>Public?</u>
03/20/2014	Petition for Inter Partes Review of U.S. Patent No. 8,023,580	Petition	1	Petitioner	Yes
03/20/2014	Power of Attorney	Power of Attorney	2	Petitioner	Yes
03/20/2014	U.S. Patent No. 8,023,580	Exhibit	1301	Petitioner	Yes
03/20/2014	Complaint	Exhibit	1302	Petitioner	Yes
03/20/2014	Proof of Service	Exhibit	1303	Petitioner	Yes
03/20/2014	Boer US5706428	Exhibit	1304	Petitioner	Yes
03/20/2014	Infringement Contentions	Exhibit	1305	Petitioner	Yes

03/20/2014	IEEE Dictionary	Exhibit	1306	Petitioner	Yes
03/20/2014	App as filed	Exhibit	1307	Petitioner	Yes
03/20/2014	Oa	Exhibit	1308	Petitioner	Yes
03/20/2014	3.1.2011 Reply	Exhibit	1309	Petitioner	Yes
03/20/2014	3.10.2011 Response	Exhibit	1310	Petitioner	Yes
03/20/2014	5.11.2011 Supplemental Amendment	Exhibit	1311	Petitioner	Yes
03/20/2014	Notice of Allowance and Fees Due	Exhibit	1312	Petitioner	Yes
03/20/2014	Amendment after Allowance	Exhibit	1313	Petitioner	Yes
03/20/2014	U.S. Patent No. 6,614,838	Exhibit	1314	Petitioner	Yes
03/20/2014	June 28, 2001 OA	Exhibit	1315	Petitioner	Yes
03/20/2014	October 2, 2001 Response	Exhibit	1316	Petitioner	Yes
03/20/2014	Mears Declaration and Upender	Exhibit	1317	Petitioner	Yes
03/20/2014	Goodman Declaration	Exhibit	1318	Petitioner	Yes
04/03/2014	Notice of Filing Date Accorded to Petition	Notice of Filing Date Accorded to Petition	3	Board	Yes
04/03/2014	Amended Petition for Inter Partes Review	Notice	4	Petitioner	Yes
04/08/2014	Notice of Accepting Corrected Petition	Notice	5	Board	Yes
04/18/2014	Power of Attorney	Power of Attorney	6	Potential Patent Owner	Yes
04/18/2014	Related Matters	Notice	7	Potential Patent Owner	Yes
05/13/2014	Order - Authorizing Counsel for Patent Owner to file Motion to Withdraw	Order	8	Board	Yes
05/13/2014	Power of Attorney	Power of Attorney	9	Potential Patent Owner	Yes
05/13/2014	Related Matters	Notice	10	Potential Patent Owner	Yes
05/19/2014	Motion_For_Withdrawal	Motion	11	Patent Owner	Yes
05/20/2014	Order - Conduct of the Proceedings - 37 CFR 42.5	Order	12	Board	Yes
06/20/2014	PO Supplemental Mandatory Notice	Notice	13	Patent Owner	Yes
07/03/2014	Preliminary Response	Preliminary Response	14	Patent Owner	Yes
07/03/2014	Exhibit 2301	Exhibit	2301	Patent Owner	Yes
07/31/2014	District Court Claim Construction	Notice	15	Patent Owner	Yes
09/23/2014	Decision - Institution of Inter Partes Review 37 C.F.R. 42.108	Institution Decision	16	Board	Yes
09/23/2014	Scheduling Order	Notice	17	Board	Yes
10/10/2014	PO Proposed Motions	Notice	18	Patent Owner	Yes
10/10/2014	Petitioner Notice of Proposed Motions	Notice	19	Petitioner	Yes
10/20/2014	ORDER Conduct of the Proceeding	Notice	20	Board	Yes
10/27/2014	Notice of Goodman Declaration	Notice	21	Patent Owner	Yes
10/31/2014	Supplemental Mandatory Notice	Notice	22	Patent Owner	Yes
11/05/2014	Power of Attorney	Power of Attorney	23	Patent Owner	Yes
11/05/2014	Supplemental Mandatory Notice	Notice	24	Patent	Yes

				Owner	
12/01/2014	Patent Owner's Response Pursuant to 37 C.F.R. 42.120	Opposition	25	Patent Owner	Yes
12/01/2014	Exhibit 2302	Exhibit	2302	Patent Owner	Yes
12/01/2014	Exhibit 2303	Exhibit	2303	Patent Owner	Yes
12/01/2014	Exhibit 2304	Exhibit	2304	Patent Owner	Yes
12/01/2014	Exhibit 2305	Exhibit	2305	Patent Owner	Yes
12/01/2014	Exhibit 2306	Exhibit	2306	Patent Owner	Yes
12/01/2014	Exhibit 2307	Exhibit	2307	Patent Owner	Yes
12/01/2014	Exhibit 2308	Exhibit	2308	Patent Owner	Yes
12/01/2014	Exhibit 2309	Exhibit	2309	Patent Owner	Yes
12/01/2014	Exhibit 2310	Exhibit	2310	Patent Owner	Yes
12/04/2014	Patent Owner's Notice of Filing of Disclaimer Under 37 C.F.R. 1.321(a)	Notice	26	Patent Owner	Yes
12/10/2014	Patent Owner's Supplemental Mandatory Notice Information Under 37 C.F.R. 42.8	Notice	27	Patent Owner	Yes
12/29/2014	Notice of Deposition of Dr. Christopher Jones	Notice	28	Petitioner	Yes
12/29/2014	Notice of Deposition of Dr. Philip Koopman	Notice	29	Petitioner	Yes
01/06/2015	Notice of Withdrawal of Notice of Deposition of Dr. Christopher Jones	Notice	30	Petitioner	Yes
01/06/2015	Supplemental Mandatory Notice	Notice	31	Petitioner	Yes
01/09/2015	Supplemental Mandatory Notice	Notice	32	Petitioner	Yes
01/30/2015	PO Supplemental Mandatory Notice	Notice	33	Patent Owner	Yes
02/06/2015	Petitioner Reply	Reply	34	Petitioner	Yes
02/06/2015	Koopman Deposition Transcript	Exhibit	1319	Petitioner	Yes
02/06/2015	Data Network Evaluation Criteria	Exhibit	1320	Petitioner	Yes
02/06/2015	U.S. Patent No. 5,450,404	Exhibit	1321	Petitioner	Yes
02/06/2015	U.S. Patent No. 5,436,901	Exhibit	1322	Petitioner	Yes
02/06/2015	U.S. Patent No. 5,535,212	Exhibit	1323	Petitioner	Yes
02/06/2015	Order, Innovative Biometric Tech., LLC v Toshiba Am. Info. Sys.	Exhibit	1324	Petitioner	Yes
02/06/2015	Order, Innovative Biometric Tech., LLC v Lenovo (U.S.), Inc.	Exhibit	1325	Petitioner	Yes
03/02/2015	Power of Attorney	Power of Attorney	35	Petitioner	Yes
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03/20/2015	Power of Attorney	Power of Attorney	40	Petitioner	Yes
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03/26/2015	Order Conduct of Proceedings	Order	42	Board	Yes
03/27/2015	DECISION - Petitioner's Motion for Pro Hac Vice Admission of Mr. Biddinger	Notice	43	Board	Yes



04/07/2015	Petitioners' Supplemental Mandatory Notice	Notice	44	Petitioner	Yes
04/16/2015	ORDER Trial Hearing Notice	Notice	45	Board	Yes
04/22/2015	Petitioners' Updated Exhibit List - 4-22-2015	Notice	46	Petitioner	Yes
04/22/2015	Patent Owner's Demonstratives and Updated Exhibit List	Notice	47	Patent Owner	Yes
04/22/2015	Petitioners' Demonstratives	Exhibit	1326	Petitioner	Yes
04/22/2015	Exhibit 21311 - Patent Owner's Demonstratives	Exhibit	2311	Patent Owner	Yes
07/20/2015	Record of Oral Hearing	Notice	48	Board	Yes
09/17/2015	Final Written Decision - 35 USC 318(a) and 37 CFR 42.73	Final Decision	49	Board	Yes

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**US District Court Civil Docket**

U.S. District - Texas Eastern  
(Marshall)

**2:13cv213**

**Rembrandt Wireless Technologies, LP v. Samsung Electronics Co. Ltd., et al**

This case was retrieved from the court on Monday, September 19, 2016

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Date Filed: **03/15/2013**  
Assigned To: **Judge Rodney Gilstrap**  
Referred To:  
Nature of suit: **Patent (830)**  
Cause: **Patent Infringement**  
Lead Docket: **None**  
Other Docket: **USCA-FEDERAL CIRCUIT, 16-01729**  
Jurisdiction: **Federal Question**

Class Code: **OPEN**  
Closed:  
Statute: **35:271**  
Jury Demand: **Both**  
Demand Amount: **\$0**  
NOS Description: **Patent**

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Date	#	Proceeding Text	Source
03/15/2013	1	COMPLAINT FOR PATENT INFRINGEMENT against All Defendants ( Filing fee \$ 350 receipt number 0540-4047368.), filed by Rembrandt Wireless Technologies, LP. (Attachments: # 1 Exhibit Exhibit A - '580 Patent)(Jones, Miranda) (Additional attachment(s) added on 3/18/2013: # 2 Civil Cover Sheet) (ch, ). (Entered: 03/15/2013)	
03/18/2013		Case assigned to Judge Rodney Gilstrap. (ch, ) (Entered: 03/18/2013)	
03/18/2013	2	ORDER REFERRING CASE to Magistrate Judge Roy S. Payne for pretrial purposes. Signed by Judge Rodney Gilstrap on 3/18/2013. (ch, ) (Entered: 03/18/2013)	
03/18/2013		In accordance with the provisions of 28 USC Section 636(c), you are hereby notified that a U.S. Magistrate Judge of this district court is available to conduct any or all proceedings in this case including a jury or non-jury trial and to order the entry of a final judgment. The form Consent to Proceed Before Magistrate Judge is available on our website. All signed consent forms, excluding pro se parties, should be filed electronically using the event Notice of Consent to Proceed Before Magistrate Judge. (ch, ) (Entered: 03/18/2013)	
03/18/2013	3	NOTICE of Attorney Appearance by Eric James Enger on behalf of Rembrandt Wireless Technologies LP (Enger, Eric) (Entered: 03/18/2013)	
03/18/2013	4	NOTICE of Attorney Appearance by Robert Allan Bullwinkel on behalf of Rembrandt Wireless Technologies LP (Bullwinkel, Robert) (Entered: 03/18/2013)	
03/18/2013	5	NOTICE of Attorney Appearance by Michael F Heim on behalf of Rembrandt Wireless Technologies LP (Heim, Michael) (Entered: 03/18/2013)	
03/19/2013	6	SUMMONS Issued as to Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America LLC, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Samsung Telecommunication Am LLC, # 2 Samsung Electronics Co Ltd, # 3 Samsung Electronics Am LLC, # 4 Samsung Austin Semiconductor LLC, # 5 Research in Motion ltd) (ehs, ) (Entered: 03/19/2013)	
03/19/2013	7	NOTICE of Attorney Appearance by Amir H. Alavi on behalf of Rembrandt Wireless Technologies LP (Alavi, Amir) (Entered: 03/19/2013)	
03/19/2013	8	NOTICE of Attorney Appearance by Demetrios Anaipakos on behalf of Rembrandt	



- Wireless Technologies LP (Anaipakos, Demetrios) (Entered: 03/19/2013)
- 03/19/2013 9 NOTICE of Attorney Appearance by Brian Ervin Simmons on behalf of Rembrandt Wireless Technologies LP (Simmons, Brian) (Entered: 03/19/2013)
- 03/19/2013 10 Notice of Filing of Patent/Trademark Form (AO 120). AO 120 mailed to the Director of the U.S. Patent and Trademark Office. (Enger, Eric) (Entered: 03/19/2013)
- 04/10/2013 11 NOTICE by Research in Motion Ltd WAIVER OF THE SERVICE OF SUMMONS TO MIRANDA JONES (Hung, Richard) (Entered: 04/10/2013)
- 04/10/2013 12 Unopposed MOTION for Extension of Time to File Answer by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Jones, Miranda) (Entered: 04/10/2013)
- 04/10/2013 13 Unopposed MOTION for Extension of Time to File Answer by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Jones, Miranda) (Entered: 04/10/2013)
- 04/11/2013 14 NOTICE of Attorney Appearance by Thomas John Ward, Jr on behalf of Rembrandt Wireless Technologies LP (Ward, Thomas) (Entered: 04/11/2013)
- 04/11/2013 15 NOTICE of Attorney Appearance by Jack Wesley Hill on behalf of Rembrandt Wireless Technologies LP (Hill, Jack) (Entered: 04/11/2013)
- 04/11/2013 16 NOTICE of Attorney Appearance by Claire Abernathy Henry on behalf of Rembrandt Wireless Technologies LP (Henry, Claire) (Entered: 04/11/2013)
- 04/12/2013 17 AMENDED COMPLAINT against Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC, filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit A)(Jones, Miranda) (Entered: 04/12/2013)
- 04/15/2013 18 WAIVER OF SERVICE Returned Executed by Rembrandt Wireless Technologies LP. Samsung Electronics Co LTD waiver sent on 4/10/2013, answer due 6/10/2013. (ehs, ) (Entered: 04/15/2013)
- 04/15/2013 19 ORDER granting 12 Motion for Extension of Time to Answer. The deadline for Research in Motion Corp. and Research in Motion Ltd. to answer is extended up to July 3, 2013. Signed by Magistrate Judge Roy S. Payne on 4/15/13. (ehs, ) (Entered: 04/15/2013)
- 04/15/2013 Answer Due Deadline Updated for Research In Motion Corporation to 7/3/2013; Research in Motion Ltd to 7/3/2013. (ehs, ) (Entered: 04/15/2013)
- 04/15/2013 20 ORDER granting 13 Motion for Extension of Time to Answer. Deadline for Samsung Electronics Co. Ltd. and the Domestic Samsung Defendants (i.e., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC) to answer the Complaint is extended to July 3, 2013. Signed by Magistrate Judge Roy S. Payne on 4/15/13. (ehs, ) (Entered: 04/15/2013)
- 04/15/2013 Answer Due Deadline Updated for Samsung Austin Semiconductor LLC to 7/3/2013; Samsung Electronics America Inc to 7/3/2013; Samsung Electronics Co LTD to 7/3/2013; Samsung Telecommunications America LLC to 7/3/2013. (ehs, ) (Entered: 04/15/2013)
- 04/25/2013 21 SUMMONS Returned Executed by Rembrandt Wireless Technologies LP. Research In Motion Corporation served on 3/25/2013, answer due 7/3/2013; Research in Motion Ltd served on 3/21/2013, answer due 7/3/2013; Samsung Austin Semiconductor LLC served on 3/20/2013, answer due 7/3/2013; Samsung Electronics America Inc served on 3/27/2013, answer due 7/3/2013; Samsung Telecommunications America LLC served on 3/25/2013, answer due 7/3/2013. (Attachments: # 1 Research In Motion Corp, # 2 Samsung Austin Semiconductor LLC, # 3 Samsung Electronics Am LLC, # 4 Samsung Telecommunications America)(ehs, ) (Entered: 04/25/2013)
- 05/01/2013 22 \*\*\*DEFICIENT DOCUMENT. PLEASE IGNORE.\*\*\*NOTICE of Attorney Appearance by Jeffrey Kirk Sherwood on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (Sherwood, Jeffrey) Modified on 5/2/2013 (ch, ). (Entered: 05/01/2013)
- 05/02/2013 NOTICE of Deficiency regarding the 22 submitted NO CERTIFICATE OF SERVICE. Correction should be made by one business day (ch, ) (Entered: 05/02/2013)
- 05/03/2013 23 NOTICE of Attorney Appearance by Jeffrey Kirk Sherwood on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (Sherwood, Jeffrey) (Entered: 05/03/2013)
- 06/05/2013 24 AMENDED COMPLAINT Second against All Defendants, filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit A - 580 Patent, # 2 Exhibit B - 228 Patent) (Enger, Eric) (Entered: 06/05/2013)

- 06/10/2013 25 Notice of Filing of Patent/Trademark Form (AO 120). AO 120 mailed to the Director of the U.S. Patent and Trademark Office. (Enger, Eric) (Entered: 06/10/2013)
- 06/25/2013 26 Unopposed MOTION for Extension of Time to File Answer re 24 Amended Complaint by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order)(Sherwood, Jeffrey) (Entered: 06/25/2013)
- 06/25/2013 27 NOTICE of Attorney Appearance by Michael Charles Smith on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (Smith, Michael) (Entered: 06/25/2013)
- 06/26/2013 28 ORDER granting 26 Motion for Extension of Time to Answer. Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC. Deadline is 7/10/2013. Signed by Magistrate Judge Roy S. Payne on 6/26/2013. (ch, ) (Entered: 06/26/2013)
- 06/26/2013 Answer Due Deadline Updated for Samsung Austin Semiconductor LLC to 7/10/2013; Samsung Electronics America Inc to 7/10/2013; Samsung Electronics Co LTD to 7/10/2013; Samsung Telecommunications America LLC to 7/10/2013. (ch, ) (Entered: 06/26/2013)
- 06/27/2013 29 NOTICE of Attorney Appearance by Richard S J Hung on behalf of Research In Motion Corporation, Research in Motion Ltd (Hung, Richard) (Entered: 06/27/2013)
- 06/27/2013 30 Unopposed MOTION for Extension of Time to File Answer to Plaintiff's Second Amended Complaint by Research In Motion Corporation, Research in Motion Ltd. (Attachments: # 1 Text of Proposed Order)(Hung, Richard) (Entered: 06/27/2013)
- 07/01/2013 31 NOTICE of Attorney Appearance - Pro Hac Vice by Daniel G Cardy on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4204231. (Cardy, Daniel) (Entered: 07/01/2013)
- 07/01/2013 32 NOTICE of Attorney Appearance - Pro Hac Vice by Gerard Haddad on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4204241. (Haddad, Gerard) Modified on 7/2/2013 (pkb, ). (Entered: 07/01/2013)
- 07/01/2013 33 NOTICE of Attorney Appearance by Frank C Cimino, Jr on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (Cimino, Frank) (Entered: 07/01/2013)
- 07/01/2013 34 ORDER granting 30 Motion for Extension of Time to Answer. Dft Research In Motion Corp and Research In Motion Ltd is 7/10/2013. Signed by Magistrate Judge Roy S. Payne on 7/1/2013. (ch, ) (Entered: 07/01/2013)
- 07/01/2013 Answer Due Deadline Updated for Research In Motion Corporation to 7/10/2013; Research in Motion Ltd to 7/10/2013. (ch, ) (Entered: 07/01/2013)
- 07/08/2013 35 NOTICE of Attorney Appearance - Pro Hac Vice by Jared W Miller on behalf of Research In Motion Corporation, Research in Motion Ltd. Filing fee \$ 100, receipt number 0540-4213323. (Miller, Jared) (Entered: 07/08/2013)
- 07/09/2013 36 NOTICE of Attorney Appearance - Pro Hac Vice by Francis C Ho on behalf of Research In Motion Corporation, Research in Motion Ltd. Filing fee \$ 100, receipt number 0540-4214040. (Ho, Francis) (Entered: 07/09/2013)
- 07/10/2013 37 NOTICE of Attorney Appearance by Vincent J Belusko on behalf of Research In Motion Corporation, Research in Motion Ltd (Belusko, Vincent) (Entered: 07/10/2013)
- 07/10/2013 38 Defendants Research In Motion Corp.'s and Research in Motion Ltd.'s ANSWER to 24 Amended Complaint (Second) and, COUNTERCLAIM against Rembrandt Wireless Technologies LP by Research in Motion Ltd, Research In Motion Corporation.(Hung, Richard) (Entered: 07/10/2013)
- 07/10/2013 39 CORPORATE DISCLOSURE STATEMENT filed by Research In Motion Corporation, Research in Motion Ltd identifying Corporate Parent Research In Motion Limited for Research In Motion Corporation. (Hung, Richard) (Entered: 07/10/2013)
- 07/10/2013 40 ANSWER to 24 Amended Complaint, COUNTERCLAIM against Rembrandt Wireless Technologies LP by Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC, Samsung Austin Semiconductor LLC.(Smith, Michael) (Entered: 07/10/2013)
- 07/10/2013 41 CORPORATE DISCLOSURE STATEMENT filed by Samsung Electronics Co LTD identifying Corporate Parent None, Other Affiliate Samsung Electronics America Inc, Other Affiliate Samsung Telecommunications America, LLC, Other Affiliate Samsung Austin

- Semiconductor LLC for Samsung Electronics Co LTD. (Smith, Michael) (Entered: 07/10/2013)
- 07/15/2013 42 NOTICE by Rembrandt Wireless Technologies LP of Readiness for Scheduling Conference (Enger, Eric) (Entered: 07/15/2013)
- 07/22/2013 43 ORDER setting Scheduling Conference for 8/8/2013 04:15 PM in Ctrm 106 (Marshall) before Judge Rodney Gilstrap and Judge Roy Payne. Signed by Judge Rodney Gilstrap on 7/22/13. (bas, ) (Entered: 07/22/2013)
- 07/24/2013 44 NOTICE of Attorney Appearance - Pro Hac Vice by Alden Harris on behalf of Rembrandt Wireless Technologies LP. Filing fee \$ 100, receipt number 0540-4234929. (Harris, Alden) (Entered: 07/24/2013)
- 07/25/2013 45 NOTICE by Rembrandt Wireless Technologies LP of Disclosures (Enger, Eric) (Entered: 07/25/2013)
- 07/31/2013 46 ANSWER to 40 Answer to Amended Complaint, Counterclaim to Samsung Defendants' Counterclaims by Rembrandt Wireless Technologies LP.(Enger, Eric) (Entered: 07/31/2013)
- 07/31/2013 47 ANSWER to 38 Answer to Amended Complaint, Counterclaim,, to Research In Motion Defendants' Counterclaims by Rembrandt Wireless Technologies LP.(Enger, Eric) (Entered: 07/31/2013)
- 07/31/2013 48 NOTICE of Attorney Appearance by John Steven Torkelson on behalf of Research In Motion Corporation, Research in Motion Ltd (Torkelson, John) (Entered: 07/31/2013)
- 08/01/2013 49 NOTICE of Attorney Appearance by Edgar Leon Carter on behalf of Research In Motion Corporation, Research in Motion Ltd (Carter, Edgar) (Entered: 08/01/2013)
- 08/08/2013 Minute Entry for proceedings held before Judge Rodney Gilstrap and Judge Roy Payne: Scheduling Conference held on 8/8/13. Counsel for the parties appeared and were asked if they consented to a trial before Judge Payne. The parties were then given Markman and jury selection dates. The parties were directed to meet and confer regarding any changes to the Courts scheduling order and discovery order, and the parties are to submit the proposed orders within 14 days of the conference. (Court Reporter Shelly Holmes.) (bga, ) (Entered: 08/13/2013)
- 08/08/2013 Minute Entry for proceedings held before Judge Rodney Gilstrap and Judge Roy Payne: Scheduling Conference held on 8/8/13. Counsel for the parties appeared and were asked if they consented to a trial before Judge Payne. The parties were then given Markman and jury selection dates. The parties were directed to meet and confer regarding any changes to the Court's scheduling order and discovery order, and the parties are to submit the proposed orders within 14 days of the conference. (Court Reporter Shelly Holmes.) (jml) (Entered: 09/10/2013)
- 08/15/2013 50 NOTICE of Designation of Mediator, Judge Paul Michel, filed by Rembrandt Wireless Technologies LP, Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Enger, Eric) (Entered: 08/15/2013)
- 08/21/2013 51 ORDER REFERRING CASE to Mediator Paul R. Michel, 6307 Broad Branch Road, Chevy Chase, Maryland 20815, telephone number (301) 229-3045 and email prmichel@mindspring.com, is hereby appointed as mediator. Signed by Magistrate Judge Roy S. Payne on 8/20/2013. (ch, ) (Entered: 08/21/2013)
- 08/22/2013 52 Joint MOTION Seeking Entry of Docket Control Order, Discovery Order and E-Discovery Order re 43 Order, Set Hearings by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3)(Enger, Eric) (Entered: 08/22/2013)
- 08/29/2013 53 DOCKET CONTROL ORDER - Amended Pleadings due by 3/13/2014., Joinder of Parties due by 8/29/2013., Markman Hearing set for 5/29/2014 09:00 AM before Magistrate Judge Roy S. Payne., Motions due by 12/31/2014., Proposed Pretrial Order due by 1/12/2015., Jury Selection set for 2/2/2015 09:00AM before Judge Rodney Gilstrap., Pretrial Conference set for 1/20/2015 09:00 AM before Magistrate Judge Roy S. Payne. Mediation deadline is 7/14/2014. Signed by Magistrate Judge Roy S. Payne on 8/29/2013. (ch, ) (Entered: 08/29/2013)
- 08/29/2013 54 DISCOVERY ORDER. Signed by Magistrate Judge Roy S. Payne on 8/29/2013. (ch, ) (Entered: 08/29/2013)
- 08/29/2013 55 ORDER REGARDING E-DISCOVERY. Signed by Magistrate Judge Roy S. Payne on 8/29/2013. (ch, ) (Entered: 08/29/2013)
- 08/29/2013 56 Joint MOTION for Protective Order Entry by Rembrandt Wireless Technologies LP, Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung

- Telecommunications America LLC. (Attachments: # 1 Exhibit 1 - Samsung's Version of Protective Order, # 2 Exhibit 2 - Rembrandt's Version of Protective Order)(Alavi, Amir) (Entered: 08/29/2013)
- 08/30/2013 57 NOTICE of Change of Address by Eric James Enger (Enger, Eric) (Entered: 08/30/2013)
- 09/06/2013 58 NOTICE of Discovery Disclosure by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (Initial Disclosures) (Smith, Michael) (Entered: 09/06/2013)
- 09/06/2013 59 NOTICE of Discovery Disclosure by Rembrandt Wireless Technologies LP Initial Disclosures (Enger, Eric) (Entered: 09/06/2013)
- 09/06/2013 60 NOTICE of Discovery Disclosure by Research In Motion Corporation, Research in Motion Ltd Initial Disclosures (Torkelson, John) (Entered: 09/06/2013)
- 09/12/2013 61 Unopposed MOTION to Modify Caption and Notice of Change of Name of Parties by Research In Motion Corporation, Research in Motion Ltd. (Attachments: # 1 Text of Proposed Order)(Hung, Richard) (Entered: 09/12/2013)
- 09/17/2013 62 ORDER denying 61 Unopposed Motion to Modify Caption. Signed by Magistrate Judge Roy S. Payne on 9/16/2013. (ch, ) (Entered: 09/17/2013)
- 09/20/2013 63 NOTICE of Discovery Disclosure by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (Additional Disclosures) (Smith, Michael) (Entered: 09/20/2013)
- 09/20/2013 64 NOTICE of Discovery Disclosure by Rembrandt Wireless Technologies LP (Enger, Eric) (Entered: 09/20/2013)
- 09/20/2013 65 NOTICE of Discovery Disclosure by Research In Motion Corporation, Research in Motion Ltd Additional Disclosures (Torkelson, John) (Entered: 09/20/2013)
- 10/31/2013 66 NOTICE of Discovery Disclosure by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (PR 3-3 and 3-4 Disclosures) (Smith, Michael) (Entered: 10/31/2013)
- 11/22/2013 67 Unopposed MOTION for Protective Order Temporary by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Text of Proposed Order Proposed Order)(Enger, Eric) (Entered: 11/22/2013)
- 11/27/2013 68 PROTECTIVE ORDER. Signed by Magistrate Judge Roy S. Payne on 11/27/2013. (ch, ) (Entered: 11/27/2013)
- 12/02/2013 69 Unopposed MOTION to Withdraw as Attorney Francis C. Ho by Research In Motion Corporation, Research in Motion Ltd. (Attachments: # 1 Text of Proposed Order) (Torkelson, John) (Entered: 12/02/2013)
- 12/04/2013 70 ORDER granting 69 Motion to Withdraw as Attorney. Attorney Francis C Ho terminated. Signed by Magistrate Judge Roy S. Payne on 12/4/2013. (ch, ) (Entered: 12/04/2013)
- 01/13/2014 71 NOTICE of Attorney Appearance - Pro Hac Vice by James Ryan Gilfoil on behalf of Research In Motion Corporation, Research in Motion Ltd. Filing fee \$ 100, receipt number 0540-4476910. (Gilfoil, James) (Entered: 01/13/2014)
- 01/14/2014 72 NOTICE of Attorney Appearance by Blaine Andrew Larson on behalf of All Plaintiffs (Larson, Blaine) (Entered: 01/14/2014)
- 01/23/2014 73 NOTICE of Attorney Appearance by Kyril Vladimir Talanov on behalf of Rembrandt Wireless Technologies LP (Talanov, Kyril) (Entered: 01/23/2014)
- 01/24/2014 74 NOTICE by Rembrandt Wireless Technologies LP of Compliance with Patent Rule 4-1 (Enger, Eric) (Entered: 01/24/2014)
- 01/24/2014 75 Unopposed MOTION to Amend/Correct its Infringement Contentions to Research In Motion by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit Declaration of Eric Enger, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Exhibit 4, # 6 Exhibit 5, # 7 Text of Proposed Order)(Enger, Eric) (Entered: 01/24/2014)
- 01/27/2014 76 NOTICE of Discovery Disclosure by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC (PR 4-1 Disclosures) (Smith, Michael) (Entered: 01/27/2014)
- 01/28/2014 77 MOTION to Amend/Correct Infringement Contentions to Samsung by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Text of Proposed Order)(Enger, Eric) (Entered: 01/28/2014)

- 01/29/2014 78 ORDER finding as moot 67 Motion for Temporary Protective Order. Signed by Magistrate Judge Roy S. Payne on 01/29/2014. (rsp3) (Entered: 01/29/2014)
- 01/29/2014 79 ORDER granting 75 Motion to Amend/Correct Infringement Contentions. Signed by Magistrate Judge Roy S. Payne on 1/29/2014. (ch, ) (Entered: 01/29/2014)
- 02/14/2014 80 RESPONSE to Motion re 77 MOTION to Amend/Correct Infringement Contentions to Samsung filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order Granting Rembrandt Leave to Amend its Infringement Contentions)(Haddad, Gerard) (Entered: 02/14/2014)
- 03/06/2014 81 Claim Construction and Prehearing Statement by Rembrandt Wireless Technologies LP. (Enger, Eric) (Entered: 03/06/2014)
- 03/07/2014 82 Unopposed MOTION for Protective Order Supplemental for Non-Parties by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Enger, Eric) (Entered: 03/07/2014)
- 03/12/2014 NOTICE of Hearing: Jury Selection RESET for 2/9/2015 09:00 AM in Ctrm 106 (Marshall) before Judge Rodney Gilstrap. (jml) (Entered: 03/12/2014)
- 03/13/2014 83 Unopposed MOTION to Amend/Correct Defendants' Invalidity Contentions by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Text of Proposed Order Proposed Order Granting Motion to Amend Invalidity Contentions)(Haddad, Gerard) (Entered: 03/13/2014)
- 03/13/2014 84 AMENDED COMPLAINT Rembrandt Wireless Technologies LP's Third Amended Complaint for Patent Infringement against All Defendants, filed by Rembrandt Wireless Technologies LP.(Enger, Eric) (Entered: 03/13/2014)
- 03/17/2014 85 ORDER granting 77 Motion to Supplement Its Infringement Contentions. Signed by Magistrate Judge Roy S. Payne on 3/14/2014. (ch, ) (Entered: 03/17/2014)
- 03/17/2014 86 SUPPLEMENTAL PROTECTIVE ORDER FOR NON-PARTIES. Signed by Magistrate Judge Roy S. Payne on 3/14/2014. (ch, ) (Entered: 03/17/2014)
- 03/17/2014 87 ORDER granting 83 Motion to Amend Their Invalidity Contentions. Signed by Magistrate Judge Roy S. Payne on 3/14/2014. (ch, ) (Entered: 03/17/2014)
- 03/18/2014 88 MOTION to Compel and Motion to Enforce and/or Modify the Discovery Order by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Exhibit 4, # 6 Exhibit 5, # 7 Exhibit 6, # 8 Exhibit 7, # 9 Exhibit 8, # 10 Exhibit 9, # 11 Exhibit 10, # 12 Exhibit 11)(Enger, Eric) (Entered: 03/18/2014)
- 03/27/2014 89 DEFENDANTS BLACKBERRY CORP.S AND BLACKBERRY LTD.S ANSWER AND COUNTERCLAIMS TO PLAINTIFFS THIRD AMENDED COMPLAINT ANSWER to 84 Amended Complaint , COUNTERCLAIM against All Plaintiffs by Research in Motion Ltd, Research In Motion Corporation.(Hung, Richard) (Entered: 03/27/2014)
- 03/27/2014 90 Samsung Defendants' ANSWER to 84 Amended Complaint (Third) of Rembrandt Wireless Technologies LP, COUNTERCLAIM against Rembrandt Wireless Technologies LP by Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc, Samsung Telecommunications America LLC.(Haddad, Gerard) (Entered: 03/27/2014)
- 04/03/2014 91 NOTICE of Attorney Appearance - Pro Hac Vice by Jennifer BianRosa on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4595407. (BianRosa, Jennifer) (Entered: 04/03/2014)
- 04/04/2014 92 RESPONSE in Opposition re 88 MOTION to Compel and Motion to Enforce and/or Modify the Discovery Order filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Exhibit 1 - Declaration of Daniel Cardy, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17, # 18 Exhibit 18, # 19 Exhibit 19, # 20 Exhibit 20, # 21 Text of Proposed Order)(Haddad, Gerard) (Entered: 04/04/2014)
- 04/11/2014 93 ANSWER to 89 Answer to Amended Complaint, Counterclaim,, by Rembrandt Wireless Technologies LP.(Enger, Eric) (Entered: 04/11/2014)
- 04/11/2014 94 ANSWER to 90 Answer to Amended Complaint, Counterclaim,, by Rembrandt Wireless Technologies LP.(Enger, Eric) (Entered: 04/11/2014)

- 04/14/2014 95 SEALED REPLY to Response to Motion re 88 MOTION to Compel and Motion to Enforce and/or Modify the Discovery Order filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 15)(Enger, Eric) (Entered: 04/14/2014)
- 04/14/2014 96 Additional Attachments to Main Document: 95 Sealed Reply to Response to Motion.. (Attachments: # 1 Exhibit 13, # 2 Exhibit 14)(Enger, Eric) (Entered: 04/14/2014)
- 04/17/2014 97 OPENING CLAIM CONSTRUCTION BRIEF filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17, # 18 Exhibit 18, # 19 Exhibit 19, # 20 Exhibit 20, # 21 Exhibit 21, # 22 Exhibit 22, # 23 Exhibit 23, # 24 Exhibit 24, # 25 Exhibit 25, # 26 Exhibit 26, # 27 Exhibit 27)(Enger, Eric) (Entered: 04/17/2014)
- 04/17/2014 98 NOTICE by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC Of Compliance Regarding Technical Tutorial (Smith, Michael) (Entered: 04/17/2014)
- 04/17/2014 99 NOTICE by Rembrandt Wireless Technologies LP of Compliance Regarding Technology Tutorial (Enger, Eric) (Entered: 04/17/2014)
- 04/24/2014 100 SUR-REPLY to Reply to Response to Motion re 88 MOTION to Compel and Motion to Enforce and/or Modify the Discovery Order filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8)(Haddad, Gerard) (Entered: 04/24/2014)
- 04/28/2014 NOTICE of Hearing on Motion 88 MOTION to Compel and Motion to Enforce and/or Modify the Discovery Order : Motion Hearing set for 5/16/2014 10:00 AM in Mag Ctrm (Marshall) before Magistrate Judge Roy S. Payne. (bga, ) (Entered: 04/28/2014)
- 04/30/2014 NOTICE of Hearing:Markman Hearing RESET for 5/30/2014 09:00 AM in Mag Ctrm (Marshall) before Magistrate Judge Roy S. Payne. (bga, ) (Entered: 04/30/2014)
- 04/30/2014 101 ORDER - Court hereby appoints David Keyzer as the Courts technical advisor. Signed by Magistrate Judge Roy S. Payne on 4/30/2014. (ch, ) (Entered: 04/30/2014)
- 05/01/2014 102 Defendants' Joint Claims Construction Brief in RESPONSE to 97 Claim Construction Brief,, filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC, Blackberry Corp, Blackberry LTD. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17)(Sherwood, Jeffrey) (Entered: 05/01/2014)
- 05/08/2014 103 REPLY to 97 Claim Construction Brief,, filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 28, # 2 Exhibit 29, # 3 Exhibit 30, # 4 Exhibit 31, # 5 Exhibit 32, # 6 Exhibit 33, # 7 Exhibit 34, # 8 Exhibit 35, # 9 Exhibit 36, # 10 Exhibit 37, # 11 Exhibit 38, # 12 Exhibit 39, # 13 Exhibit 40)(Enger, Eric) (Entered: 05/08/2014)
- 05/15/2014 104 LPR 4-5(d) Joint Claim Construction Chart by Rembrandt Wireless Technologies LP. (Enger, Eric) (Entered: 05/15/2014)
- 05/16/2014 105 Minute Entry for proceedings held before Magistrate Judge Roy S. Payne: Motion Hearing held on 5/16/2014 re 88 MOTION to Compel and Motion to Enforce and/or Modify the Discovery Order filed by Rembrandt Wireless Technologies LP. (Court Reporter Becky Andrews - ECRO.) (bga, ) (Entered: 05/16/2014)
- 05/23/2014 106 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 5/16/14 (ECRO - Motion Hearing) before Judge Roy Payne. Court Reporter/Transcriber: Shelly Holmes, CSR, TCRR, Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 6/16/2014. Redacted Transcript Deadline set for 6/26/2014. Release of Transcript Restriction set for 8/25/2014. (sholmes, ) (Entered: 05/23/2014)
- 05/23/2014 107 PAPER TRANSCRIPT REQUEST by Rembrandt Wireless Technologies LP for proceedings held on May 16, 2014 Motion Hearing before Judge Roy Payne. (Enger, Eric) (Entered: 05/23/2014)

- 05/23/2014)
- 05/30/2014 108 Minute Entry for proceedings held before Magistrate Judge Roy S. Payne: Markman Hearing held on 5/30/2014. (Court Reporter Tonya Jackson.) (Attachments: # 1 Attorney Sign-In Sheet) (bga, ) (Entered: 05/30/2014)
- 06/06/2014 109 PAPER TRANSCRIPT REQUEST by Research In Motion Corporation, Research in Motion Ltd for proceedings held on 05/30/14 Markman Hearing before Judge Payne. (Carter, Edgar) (Entered: 06/06/2014)
- 06/10/2014 110 PAPER TRANSCRIPT REQUEST by Rembrandt Wireless Technologies LP for proceedings held on 5/30/2014 - Markman Hearing before Judge Payne. (Enger, Eric) (Entered: 06/10/2014)
- 06/13/2014 111 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Claim Construction Hearing held on 5/30/2014 before Judge Roy S. Payne. Court Reporter: Tonya Jackson, Telephone number: 409.654.2833. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 7/10/2014. Redacted Transcript Deadline set for 7/17/2014. Release of Transcript Restriction set for 9/15/2014. (tj, ) (Entered: 06/13/2014)
- 06/18/2014 112 Opposed MOTION to Stay Pending Inter Partes Review by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Sansung Telecommunications America LLC. (Attachments: # 1 DECLARATION OF JENNIFER BIANROSA IN SUPPORT OF SAMSUNGS OPPOSED MOTION TO STAY PENDING INTER PARTES REVIEW, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Text of Proposed Order)(Sherwood, Jeffrey) (Entered: 06/18/2014)
- 07/07/2014 113 RESPONSE to Motion re 112 Opposed MOTION to Stay Pending Inter Partes Review filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Declaration of Eric Enger, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Text of Proposed Order)(Enger, Eric) (Entered: 07/07/2014)
- 07/10/2014 114 CLAIM CONSTRUCTION MEMORANDUM AND ORDER - Signed by Magistrate Judge Roy S. Payne on 7/10/2014. (ch, ) (Entered: 07/10/2014)
- 07/11/2014 115 ORDER - the court has received Mr. Keyzer's invoice for services through 6/4/2014, the court orders payment to be promptly made as follows herein. Signed by Magistrate Judge Roy S. Payne on 7/11/2014. (ch, ) (Entered: 07/11/2014)
- 07/14/2014 116 REPORT of Mediation by Rembrandt Wireless Technologies LP. Mediation result: impasse(Enger, Eric) (Entered: 07/14/2014)
- 07/14/2014 117 REPORT of Mediation by Rembrandt Wireless Technologies LP. Mediation result: impasse(Enger, Eric) (Entered: 07/14/2014)
- 07/17/2014 118 REPLY to Response to Motion re 112 Opposed MOTION to Stay Pending Inter Partes Review filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Sherwood, Jeffrey) (Entered: 07/17/2014)
- 07/28/2014 119 SUR-REPLY to Reply to Response to Motion re 112 Opposed MOTION to Stay Pending Inter Partes Review filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 4, # 2 Exhibit 5, # 3 Exhibit 6)(Enger, Eric) (Entered: 07/28/2014)
- 07/28/2014 120 RESPONSE to 114 Memorandum & Opinion objecting to the Claim Construction Order by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Sherwood, Jeffrey) (Entered: 07/28/2014)
- 08/14/2014 121 RESPONSE to Defendants' Objections to the Claim Construction Order filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1)(Enger, Eric) (Entered: 08/14/2014)
- 08/18/2014 122 Opposed MOTION to Sever /Separate Trial by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Affidavit /Declaration of Jennifer BianRosa in Support of Samsung's Motion for Separate Trial, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Text of Proposed Order Granting Samsung's Motion for Separate Trial) (Sherwood, Jeffrey) (Entered: 08/18/2014)
- 08/22/2014 123 NOTICE of Attorney Appearance - Pro Hac Vice by Lucia Elena Ballard on behalf of

- Research In Motion Corporation, Research in Motion Ltd. Filing fee \$ 100, receipt number 0540-4803154. (Ballard, Lucia) (Entered: 08/22/2014)
- 08/25/2014 124 RESPONSE to 114 Memorandum & Opinion, 121 Response to Non-Motion, 120 Response to Non-Motion, /Reply in Support of Defendants' Objection to the Claim Construction Order by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Sherwood, Jeffrey) (Entered: 08/25/2014)
- 08/25/2014 125 NOTICE of Attorney Appearance - Pro Hac Vice by Eric C Pai on behalf of Research In Motion Corporation, Research in Motion Ltd. Filing fee \$ 100, receipt number 0540-4805120. (Pai, Eric) (Entered: 08/25/2014)
- 08/26/2014 126 NOTICE of Attorney Appearance - Pro Hac Vice by Ji Young Park on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4806256. (Park, Ji) (Entered: 08/26/2014)
- 09/04/2014 127 NOTICE by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC Notice of Compliance (Haddad, Gerard) (Entered: 09/04/2014)
- 09/04/2014 128 RESPONSE to Motion re 122 Opposed MOTION to Sever /Separate Trial filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2)(Enger, Eric) (Entered: 09/04/2014)
- 09/04/2014 129 RESPONSE to 114 Memorandum & Opinion, 124 Response to Non-Motion, 121 Response to Non-Motion, 120 Response to Non-Motion, Sur-Reply in Opposition to Defendants' Objections to the Claim Construction Order filed by Rembrandt Wireless Technologies LP. (Enger, Eric) (Entered: 09/04/2014)
- 09/05/2014 130 RESPONSE to Motion re 122 Opposed MOTION to Sever /Separate Trial Defendants BlackBerry Corp. and BlackBerry Ltd.s Statement of Non-Opposition to Defendant Samsung's Motion for Separate Trial (ECF No. 122) filed by Research In Motion Corporation, Research in Motion Ltd. (Hung, Richard) (Entered: 09/05/2014)
- 09/15/2014 131 Letter Brief filed by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Attachments: # 1 Exhibit)(Smith, Michael) (Entered: 09/15/2014)
- 09/15/2014 132 Letter Brief filed by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Attachments: # 1 Exhibit)(Smith, Michael) (Entered: 09/15/2014)
- 09/15/2014 133 \*\*\*FILED IN ERROR. PLEASE IGNORE.\*\*\* MOTION for Leave to File Defendants Motion for Leave to File Under Seal Defendants Letter Brief Requesting Leave to File Summary Judgment Motion on Marking by Research In Motion Corporation, Research in Motion Ltd. (Hung, Richard) Modified on 9/16/2014 (ch, ). (Entered: 09/15/2014)
- 09/15/2014 134 SEALED Letter Brief filed by Research In Motion Corporation, Research in Motion Ltd (Attachments: # 1 Exhibit 1)(Hung, Richard) Modified on 9/16/2014 (ch, ). (Entered: 09/15/2014)
- 09/15/2014 135 MOTION for Leave to File Defendants Motion for Leave to File Under Seal Defendants Letter Brief Requesting Leave to File Summary Judgment Motion on Marking by Research In Motion Corporation, Research in Motion Ltd. (Attachments: # 1 Text of Proposed Order Proposed Order)(Hung, Richard) (Entered: 09/15/2014)
- 09/16/2014 NOTICE re 134 Notice of Compliance - Letter Brief was sealed per request from attorney (ch, ) (Entered: 09/16/2014)
- 09/16/2014 \*\*\*FILED IN ERROR. PER ATTORNEY Document # 133, Motion for Leave to file. PLEASE IGNORE.\*\*\* (REFILED AT # 135)(ch, ) (Entered: 09/16/2014)
- 09/16/2014 136 NOTICE of Attorney Appearance - Pro Hac Vice by Jeffrey A Miller on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4837079. (Miller, Jeffrey) (Entered: 09/16/2014)
- 09/18/2014 137 NOTICE of Attorney Appearance by Sean R D Gorman on behalf of Rembrandt Wireless Technologies LP (Gorman, Sean) (Entered: 09/18/2014)
- 09/22/2014 138 ORDER granting 135 Motion for Leave to File Under Seal Letter Brief Requesting Leave to File Summary Judgment Motion on Marking. Signed by Magistrate Judge Roy S. Payne on 9/22/2014. (ch, ) (Entered: 09/22/2014)



- 09/22/2014 139 Joint MOTION to Amend/Correct 53 Order, Set Deadlines/Hearings, Terminate Motions,,,,,, to Extend the Fact Discovery Deadline by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Jones, Miranda) (Entered: 09/22/2014)
- 09/25/2014 140 ORDER granting 139 Motion to Amend/Correct Fact Discovery Deadline. Signed by Magistrate Judge Roy S. Payne on 9/25/2014. (ch, ) (Entered: 09/25/2014)
- 09/29/2014 141 Joint MOTION Joint Motion for Leave to Extend the Deadlines for Disclosure of Expert Witnesses and Rebuttal Expert Witnesses, to Complete Expert Discovery, and to File Dispositive and Daubert Motions re 140 Order on Motion to Amend/Correct by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Talanov, Kyril) (Entered: 09/29/2014)
- 10/02/2014 142 NOTICE by Rembrandt Wireless Technologies LP re 134 Notice of Compliance - Letter Brief Response to Letter Brief (Attachments: # 1 Exhibit 1)(Talanov, Kyril) (Entered: 10/02/2014)
- 10/02/2014 143 Letter Brief filed by Rembrandt Wireless Technologies LP (Attachments: # 1 Exhibit 1) (Enger, Eric) (Entered: 10/02/2014)
- 10/02/2014 144 Letter Brief filed by Rembrandt Wireless Technologies LP (Attachments: # 1 Exhibit 1) (Enger, Eric) (Entered: 10/02/2014)
- 10/03/2014 145 ORDER granting 141 Joint Motion for Leave to Extend the Deadlines for Disclosure of Expert Witnesses and Rebuttal Expert Witnesses, to Complete Expert Discovery, and to File Dispositive and Daubert Motions. Jury Selection set for 2/9/2015 09:00AM before Judge Rodney Gilstrap Signed by Magistrate Judge Roy S. Payne on 10/3/2014. (ch, ) (Entered: 10/03/2014)
- 10/06/2014 146 NOTICE of Discovery Disclosure by Rembrandt Wireless Technologies LP Regarding Disclosures for Expert Witnesses (Talanov, Kyril) (Entered: 10/06/2014)
- 10/07/2014 147 NOTICE of Discovery Disclosure by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC Disclosures for Expert Witnesses (Haddad, Gerard) (Entered: 10/07/2014)
- 10/10/2014 148 Letter Brief filed by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Attachments: # 1 Reply Letter Brief) (Smith, Michael) (Entered: 10/10/2014)
- 10/10/2014 149 Letter Brief filed by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Attachments: # 1 Reply Letter Brief) (Smith, Michael) (Entered: 10/10/2014)
- 10/10/2014 150 Letter Brief filed by Research In Motion Corporation, Research in Motion Ltd, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Attachments: # 1 Exhibit Reply Letter Brief)(Gilfoil, James) (Entered: 10/10/2014)
- 10/16/2014 151 \*\*\*DEFICIENT DOCUMENT. PLEASE IGNORE.\*\*\* MOTION for Leave to File Under Seal Defendants' Motion for Leave to Supplement Invalidity Contentions and Supporting Declaration by Research In Motion Corporation, Research in Motion Ltd. (Attachments: # 1 Text of Proposed Order)(Gilfoil, James) Modified on 10/16/2014 (ch, ). (Entered: 10/16/2014)
- 10/16/2014 152 SEALED MOTION Defendants' Motion for Leave to Supplement Invalidity Contentions by Research In Motion Corporation, Research in Motion Ltd. (Attachments: # 1 Affidavit J. Gilfoil Decl. in Support of Motion, # 2 Exhibit A, # 3 Exhibit B, # 4 Exhibit C, # 5 Exhibit D, # 6 Exhibit E, # 7 Exhibit F, # 8 Exhibit G, # 9 Exhibit H)(Gilfoil, James) (Additional attachment(s) added on 10/16/2014: # 10 Text of Proposed Order) (ch, ). (Additional attachment(s) added on 10/16/2014: # 11 Text of Proposed Order) (ch, ). (Entered: 10/16/2014)
- 10/16/2014 NOTICE of Deficiency regarding the 151 submitted NO CERTIFICATE OF CONFERENCE. Correction should be made by one business day (ch, ) (Entered: 10/16/2014)
- 10/16/2014 153 \*\*\*FILED IN ERROR. PLEASE IGNORE.\*\*\*Additional Attachments to Main Document: 152 SEALED MOTION Defendants' Motion for Leave to Supplement Invalidity Contentions.. (Gilfoil, James) Modified on 10/16/2014 (ch, ). (Entered: 10/16/2014)
- 10/16/2014 154 MOTION for Leave to File Under Seal Defendants' Motion for Leave to Supplement Invalidity Contentions and Supporting Declaration by Research in Motion Ltd. (Attachments: # 1 Text of Proposed Order Granting Motion for Leave to File Under Seal Defendants' Motion for Leave to Supplement Invalidity Contentions and Supporting

- Declaration)(Gilfoil, James) (Entered: 10/16/2014)
- 10/20/2014 155 NOTICE of Attorney Appearance by Jamie Alan Aycok on behalf of Rembrandt Wireless Technologies LP (Aycok, Jamie) (Entered: 10/20/2014)
- 10/21/2014 156 ORDER granting 154 Motion for Leave to File Under Seal. Signed by Magistrate Judge Roy S. Payne on 10/20/2014. (ch, ) (Entered: 10/21/2014)
- 10/21/2014 157 ORDER on Notice of Compliance - Letter Brief re 132 Notice of Compliance - Letter Brief, filed by Sansung Telecommunications America LLC, Research in Motion Ltd, Research In Motion Corporation, Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc, 134 Notice of Compliance - Letter Brief filed by Research in Motion Ltd, Research In Motion Corporation, 131 Notice of Compliance - Letter Brief, filed by Sansung Telecommunications America LLC, Research in Motion Ltd, Research In Motion Corporation, Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc. Signed by Magistrate Judge Roy S. Payne on 10/20/2014. (ch, ) (Entered: 10/21/2014)
- 10/24/2014 158 Joint MOTION for Extension of Time to Complete Discovery To Extend the Fact Discovery Deadline by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order Proposed Order)(Talanov, Kyril) (Entered: 10/24/2014)
- 10/29/2014 159 ORDER granting 158 Motion for Extension of Time to Complete Discovery. Signed by Magistrate Judge Roy S. Payne on 10/29/2014. (ch, ) (Entered: 10/29/2014)
- 11/03/2014 160 RESPONSE in Opposition re 152 SEALED MOTION Defendants' Motion for Leave to Supplement Invalidity Contentions filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Text of Proposed Order)(Enger, Eric) (Entered: 11/03/2014)
- 11/13/2014 161 REPLY to Response to Motion re 152 SEALED MOTION Defendants' Motion for Leave to Supplement Invalidity Contentions filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Haddad, Gerard) (Entered: 11/13/2014)
- 11/21/2014 162 Unopposed MOTION for Leave to File for Leave to Serve Supplemental Expert Report, Joint MOTION to Amend Docket Control Order by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Alavi, Amir) (Additional attachment(s) added on 11/24/2014: # 2 Revised Proposed Order) (nkl, ). (Entered: 11/21/2014)
- 11/24/2014 163 SUR-REPLY to Reply to Response to Motion re 152 SEALED MOTION Defendants' Motion for Leave to Supplement Invalidity Contentions filed by Rembrandt Wireless Technologies LP. (Enger, Eric) (Entered: 11/24/2014)
- 11/24/2014 164 ORDER granting 162 Motion for Leave to Serve Supplemental Expert Report; granting 162 Motion to Amend Docket Control Order. Signed by Magistrate Judge Roy S. Payne on 11/24/2014. (nkl, ) (Entered: 11/24/2014)
- 11/25/2014 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman by Rembrandt Wireless Technologies LP. Responses due by 12/12/2014 (Attachments: # 1 Text of Proposed Order, # 2 Declaration of Blaine Larson, # 3 Exhibit 1, # 4 Exhibit 2, # 5 Exhibit 3, # 6 Exhibit 4, # 7 Exhibit 5, # 8 Exhibit 6, # 9 Exhibit 7, # 10 Exhibit 8, # 11 Exhibit 9, # 12 Exhibit 10, # 13 Exhibit 11, # 14 Exhibit 12, # 15 Exhibit 13)(Larson, Blaine) (Entered: 11/25/2014)
- 11/25/2014 166 SEALED ADDITIONAL EXHIBITS to Main Document: 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman. (Attachments: # 1 Exhibit 1, # 2 Exhibit 4, # 3 Exhibit 5)(Larson, Blaine) (Entered: 11/25/2014)
- 11/26/2014 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Appendix Claim Chart, # 2 Declaration of Gerard A. Haddad in Support of Defendants' Motion for Summary Judgement, # 3 Exhibit 1 to Declaration in Support (Under Seal), # 4 Exhibit 2 to Declaration in Support (Under Seal), # 5 Exhibit 3 to Declaration in Support (Under Seal), # 6 Exhibit 4 to Declaration in Support (Under Seal), # 7 Exhibit 5 to Declaration in Support, # 8 Exhibit 6 to Declaration in Support (Under Seal), # 9 Exhibit 7 to Declaration in Support, # 10 Exhibit 8 to Declaration in Support (Under Seal), # 11 Exhibit 9 to Declaration in Support, # 12 Exhibit 10 to Declaration in Support, # 13 Exhibit 11 to Declaration in Support, # 14 Exhibit 12 to Declaration in Support, # 15 Exhibit 13 to Declaration in Support, # 16 Exhibit 14 to Declaration in Support (Under Seal), # 17 Text of Proposed Order [Proposed] Order Granting Summary Judgment)(Haddad, Gerard) (Entered: 11/26/2014)

- 11/26/2014 168 DEFICIENT DOCUMENT - FILED IN ERROR SEALED Exhibits to Declaration of Gerard A. Haddad in Support of Main Document: 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark. (Attachments: # 1 Exhibit 1 to Declaration in Support, # 2 Exhibit 2 to Declaration in Support, # 3 Exhibit 3 to Declaration in Support, # 4 Exhibit 4 to Declaration in Support, # 5 Exhibit 6 to Declaration in Support, # 6 Exhibit 8 to Declaration in Support, # 7 Exhibit 14 to Declaration in Support)(Haddad, Gerard) Modified on 12/1/2014 (nkl, ). (Entered: 11/26/2014)
- 12/01/2014 NOTICE of Deficiency regarding the SEALED Exhibits to Declaration of Gerard A. Haddad in Support of Main Document submitted document 168 does not contain a Certificate of Authorization to File Under Seal. Correction should be made by one business day. (nkl, ) (Entered: 12/01/2014)
- 12/01/2014 169 DEFENDANTS' CERTIFICATE OF AUTHORIZATION TO FILE UNDER SEAL and SEALED ADDITIONAL EXHIBITS to Main Document: 168 Sealed Additional Attachments to Main Document,, Notice of Deficiency, 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark. (Attachments: # 1 Exhibit 1 to Declaration in Support, # 2 Exhibit 2 to Declaration in Support, # 3 Exhibit 3 to Declaration in Support, # 4 Exhibit 4 to Declaration in Support, # 5 Exhibit 6 to Declaration in Support, # 6 Exhibit 8 to Declaration in Support, # 7 Exhibit 14 to Declaration in Support)(Haddad, Gerard) (Entered: 12/01/2014)
- 12/04/2014 170 ORDER denying 152 Sealed Motion. Signed by Magistrate Judge Roy S. Payne on 12/04/2014. (nkl, ) (Entered: 12/04/2014)
- 12/04/2014 171 STIPULATION of Dismissal of Defendant BlackBerry by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Larson, Blaine) (Entered: 12/04/2014)
- 12/05/2014 172 ORDER granting 171 Stipulation of Dismissal. BlackBerry Corp. and Blackberry, Ltd dismissed without prejudice. Signed by Magistrate Judge Roy S. Payne on 12/5/2014. (ch, ) (Entered: 12/05/2014)
- 12/10/2014 173 NOTICE of Attorney Appearance by Gabrielle Elizabeth Higgins on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Higgins, Gabrielle) (Entered: 12/10/2014)
- 12/10/2014 174 NOTICE of Attorney Appearance by Brian P Biddinger on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Biddinger, Brian) (Entered: 12/10/2014)
- 12/11/2014 175 NOTICE of Attorney Appearance by Jesse J Jenner on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC (Jenner, Jesse) (Entered: 12/11/2014)
- 12/12/2014 176 NOTICE of Attorney Appearance - Pro Hac Vice by Vincent Y Ling on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4964851. (Ling, Vincent) (Entered: 12/12/2014)
- 12/12/2014 177 NOTICE of Attorney Appearance - Pro Hac Vice by Deanne K Cevasco on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4965810. (Cevasco, Deanne) (Entered: 12/12/2014)
- 12/12/2014 178 RESPONSE in Opposition re 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Haddad, Gerard) (Entered: 12/12/2014)
- 12/12/2014 179 AFFIDAVIT in Opposition re 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman of Ji Young Park filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17, # 18 Exhibit 18, # 19 Exhibit 19)(Haddad, Gerard) (Entered: 12/12/2014)
- 12/12/2014 180 \*\*\*FILED IN ERROR. PLEASE IGNORE.\*\*\*SEALED RESPONSE to Motion re 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Exhibit 6 - Under Seal, # 2 Exhibit 15 - Under Seal, # 3 Exhibit 17 - Under Seal)(Haddad, Gerard) Modified on 12/15/2014 (ch, ). (Entered: 12/12/2014)

- 12/15/2014 \*\*\*FILED IN ERROR. NOT A RESPONSE TO MOTION 180 Sealed Response to Motion. PLEASE IGNORE.\*\*\* (ch, ) (Entered: 12/15/2014)
- 12/15/2014 181 SEALED EXHIBITS to Main Document: 179 Affidavit in Opposition to Motion,, (Attachments: # 1 Exhibit 6 to Declaration in Opposition 179 , # 2 Exhibit 15 to Declaration in Opposition 179 , # 3 Exhibit 17 to Declaration in Opposition 179 )(Haddad, Gerard) (Entered: 12/15/2014)
- 12/15/2014 182 Additional Attachments to Main Document: 180 Sealed Response to Motion, 179 Affidavit in Opposition to Motion,, 181 Sealed Additional Attachments to Main Document,, (Attachments: # 1 Certificate of Service for Docket Nos. 179, 180 and 181)(Haddad, Gerard) (Entered: 12/15/2014)
- 12/15/2014 183 RESPONSE to Motion re 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Affidavit Declaration of Amir Alavi, # 2 Exhibit Exhibit 1 to Declaration of Amir Alavi, # 3 Exhibit Exhibit 2 to Declaration of Amir Alavi, # 4 Exhibit Exhibit 3 to Declaration of Amir Alavi, # 5 Exhibit Exhibit 4 of Declaration of Amir Alavi, # 6 Affidavit Declaration of Dr. Robert Akl, # 7 Text of Proposed Order Proposed Order) (Alavi, Amir) (Entered: 12/15/2014)
- 12/15/2014 184 Unopposed MOTION to Seal for Leave to File Under Seal its Exhibit 1 to Declaration of Dr. Robert Akl in Support of Rembrandt's Response in Opposition to Defendants' Motion for Summary Judgment of No Damages by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order Proposed Order)(Alavi, Amir) (Entered: 12/15/2014)
- 12/15/2014 185 \*\*\*DEFICIENT DOCUMENT. PLEASE IGNORE.\*\*\*SEALED ADDITIONAL ATTACHMENTS to Main Document: 184 Unopposed MOTION to Seal for Leave to File Under Seal its Exhibit 1 to Declaration of Dr. Robert Akl in Support of Rembrandt's Response in Opposition to Defendants' Motion for Summary Judgment of No Damages. (Alavi, Amir) Modified on 12/16/2014 (ch, ). (Entered: 12/15/2014)
- 12/16/2014 NOTICE of Deficiency regarding the 185 submitted NO CERTIFICATE OF AUTHORIZATION OR CERTIFICATE OF SERVICE. Correction should be made by one business day (ch, ) (Entered: 12/16/2014)
- 12/16/2014 186 SEALED ADDITIONAL ATTACHMENTS to Main Document: 184 Unopposed MOTION to Seal for Leave to File Under Seal its Exhibit 1 to Declaration of Dr. Robert Akl in Support of Rembrandt's Response in Opposition to Defendants' Motion for Summary Judgment of No Damages. (Alavi, Amir) (Entered: 12/16/2014)
- 12/18/2014 187 NOTICE of Attorney Appearance - Pro Hac Vice by Rebecca R Hermes on behalf of Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. Filing fee \$ 100, receipt number 0540-4972373. (Hermes, Rebecca) (Entered: 12/18/2014)
- 12/19/2014 188 ORDER granting 184 Motion to Seal. Signed by Magistrate Judge Roy S. Payne on 12/18/2014. (ch, ) (Entered: 12/19/2014)
- 12/19/2014 189 SEALED MOTION to Exclude Opinions of Roy Weinstein Pursuant to Federal Rules of Evidence 702 and 403 by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Declaration of R. Hermes, # 2 Exhibit A, # 3 Exhibit B, # 4 Exhibit C, # 5 Exhibit D, # 6 Exhibit E, # 7 Exhibit F, # 8 Exhibit G, # 9 Exhibit H, # 10 Exhibit I, # 11 Exhibit J part 1, # 12 Exhibit J part 2, # 13 Text of Proposed Order)(Higgins, Gabrielle) (Entered: 12/19/2014)
- 12/22/2014 190 REPLY to Response to Motion re 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman filed by Rembrandt Wireless Technologies LP. (Larson, Blaine) (Entered: 12/22/2014)
- 12/24/2014 191 NOTICE by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC NOTICE OF DEFENDANTS REQUEST FOR DAILY TRANSCRIPTS AND REAL-TIME REPORTING (Haddad, Gerard) (Entered: 12/24/2014)
- 12/26/2014 192 Unopposed MOTION for Extension of Time to File Response/Reply as to 183 Response to Motion,, 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order Proposed Order)(Haddad, Gerard) (Entered: 12/26/2014)
- 12/29/2014 193 REPLY to Response to Motion re 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark filed by Samsung Austin

- Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Affidavit /Declaration of Gerard A. Haddad in Support of Defendants' Reply Brief for its Motion for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark, # 2 Exhibit 15 - November 6, 2014 stipulation)(Haddad, Gerard) (Entered: 12/29/2014)
- 12/31/2014 194 SEALED MOTION /Defendants' Motions in Limine by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Haddad, Gerard) (Additional attachment(s) added on 1/5/2015: # 1 Text of Proposed Order) (ch, ). (Entered: 12/31/2014)
- 12/31/2014 195 AFFIDAVIT in Support re 194 SEALED MOTION /Defendants' Motions in Limine / Declaration of Gerard A. Haddad in Support of Defendants' Motions in Limine filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17, # 18 Exhibit 18, # 19 Exhibit 19, # 20 Exhibit 20, # 21 Exhibit 21, # 22 Exhibit 22, # 23 Exhibit 23, # 24 Text of Proposed Order Granting Defendants' Motions in Limine) (Haddad, Gerard) (Entered: 12/31/2014)
- 12/31/2014 196 SEALED ADDITIONAL ATTACHMENTS to Main Document: 195 Affidavit in Support of Motion,,,. (Attachments: # 1 Exhibit 2, # 2 Exhibit 3, # 3 Exhibit 4, # 4 Exhibit 5, # 5 Exhibit 6, # 6 Exhibit 7, # 7 Exhibit 8, # 8 Exhibit 10, # 9 Exhibit 23)(Haddad, Gerard) (Entered: 12/31/2014)
- 12/31/2014 197 Opposed MOTION in Limine by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Jones, Miranda) (Entered: 12/31/2014)
- 01/05/2015 198 ORDER granting 192 Motion for Extension of Time to File Response/Reply. Signed by Magistrate Judge Roy S. Payne on 1/5/2015. (ch, ) (Entered: 01/05/2015)
- 01/05/2015 199 NOTICE of Attorney Appearance by Alisa Anne Lipski on behalf of Rembrandt Wireless Technologies LP (Lipski, Alisa) (Entered: 01/05/2015)
- 01/05/2015 200 NOTICE by Rembrandt Wireless Technologies LP Notice of Plaintiff's Request for Daily Transcripts and Real-Time Reporting (Enger, Eric) (Entered: 01/05/2015)
- 01/05/2015 201 SEALED RESPONSE to Motion re 189 SEALED MOTION to Exclude Opinions of Roy Weinstein Pursuant to Federal Rules of Evidence 702 and 403 filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit A, # 2 Text of Proposed Order) (Alavi, Amir) (Entered: 01/05/2015)
- 01/05/2015 202 SUR-REPLY to Reply to Response to Motion re 165 MOTION to Strike Portions of the Invalidity Report of Dr. David Goodman filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Affidavit /Declaration of Gerard A. Haddad in Support of Defendants' Sur-Reply in Opposition to Rembrandt's Motion to Strike Portions of the Invalidity Report of Dr. David Goodman, # 2 Exhibit 20, # 3 Exhibit 21 - Filed Under Seal)(Haddad, Gerard) (Entered: 01/05/2015)
- 01/05/2015 203 SEALED ADDITIONAL ATTACHMENTS to Main Document: 202 Sur-Reply to Reply to Response to Motion, - Exhibit 21 to Declaration of Gerard A. Haddad in Support of Defendants' Motion to Strike Portions of the Invalidity Report of Dr. David Goodman. (Haddad, Gerard) (Entered: 01/05/2015)
- 01/06/2015 204 Amended SEALED MOTION - Defendants' Motions in Limine by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order Granting Defendants' Motions in Limine)(Haddad, Gerard) (Entered: 01/06/2015)
- 01/06/2015 205 AFFIDAVIT in Support re 204 Amended SEALED MOTION - Defendants' Motions in Limine \*\*Amended\*\* Declaration of Gerrard A. Haddad in Support of Defendants' Motions in Limine filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17, # 18 Exhibit 18, # 19 Exhibit 19, # 20 Exhibit 20, # 21 Exhibit 21, # 22 Exhibit 22) (Haddad, Gerard) (Entered: 01/06/2015)
- 01/06/2015 206 Amended SEALED ADDITIONAL ATTACHMENTS to Main Document: 205 Affidavit in Support of Motion: Exhibit 1, (Attachments: # 1 Exhibit 2, # 2 Exhibit 3, # 3 Exhibit 4, # 4 Exhibit 5, # 5 Exhibit 6, # 6 Exhibit 7, # 7 Exhibit 8, # 8 Exhibit 10, # 9 Exhibit 22) (Haddad, Gerard) (Entered: 01/06/2015)

- 01/07/2015 207 SUR-REPLY to Reply to Response to Motion re 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark filed by Rembrandt Wireless Technologies LP. (Alavi, Amir) (Entered: 01/07/2015)
- 01/08/2015 208 NOTICE by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC - Defendants' Notice of Institution of Inter Parties Review Proceedings and Notice of New Authority Concerning Defendants' Motion to Stay (Haddad, Gerard) (Entered: 01/08/2015)
- 01/12/2015 209 Proposed Pretrial Order Joint Final Pre-Trial Order by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit A, # 2 Exhibit B, # 3 Exhibit C, # 4 Exhibit D, # 5 Exhibit E, # 6 Exhibit F, # 7 Exhibit G, # 8 Exhibit H)(Enger, Eric) (Entered: 01/12/2015)
- 01/12/2015 210 NOTICE by Rembrandt Wireless Technologies LP Joint Notice of Proposed Verdict Forms (Attachments: # 1 Exhibit A, # 2 Exhibit B)(Enger, Eric) (Entered: 01/12/2015)
- 01/12/2015 211 SEALED RESPONSE to Motion re 204 Amended SEALED MOTION - Defendants' Motions in Limine filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order, # 2 Exhibit A, # 3 Exhibit D, # 4 Exhibit M)(Jones, Miranda) (Entered: 01/12/2015)
- 01/12/2015 212 Additional Attachments to Main Document: 211 Sealed Response to Motion,.. (Attachments: # 1 Exhibit A, # 2 Exhibit B, # 3 Exhibit C, # 4 Exhibit D, # 5 Exhibit E, # 6 Exhibit F, # 7 Exhibit G, # 8 Exhibit H, # 9 Exhibit I, # 10 Exhibit J, # 11 Exhibit K, # 12 Exhibit L, # 13 Exhibit M, # 14 Exhibit N, # 15 Exhibit O, # 16 Exhibit P)(Jones, Miranda) (Entered: 01/12/2015)
- 01/12/2015 213 SEALED RESPONSE to Motion re 197 Opposed MOTION in Limine filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Declaration of Gerard A. Haddad in Support of Defendants' Response in Opposition to Plaintiff Rembrandt's Omnibus Motions in Limine, # 2 Exhibit A to Haddad Declaration filed under seal, # 3 Exhibit B to Haddad Declaration filed under seal)(Haddad, Gerard) (Additional attachment(s) added on 1/14/2015: # 4 Text of Proposed Order) (ch, ). (Entered: 01/12/2015)
- 01/12/2015 214 AFFIDAVIT in Opposition re 197 Opposed MOTION in Limine / Declaration of Gerard A. Haddad in Support of Defendants' Response in Opposition to Plaintiff Rembrandt's Omnibus Motions in Limine - filed under seal, with Sealed and Public Exhibits filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Exhibit A to Haddad Declaration filed under seal, # 2 Exhibit B to Haddad Declaration filed under seal, # 3 Exhibit C to Haddad Declaration, # 4 Exhibit D to Haddad Declaration, # 5 Exhibit E to Haddad Declaration, # 6 Exhibit F to Haddad Declaration, # 7 Exhibit G to Haddad Declaration, # 8 Exhibit H to Haddad Declaration, # 9 Exhibit I to Haddad Declaration)(Haddad, Gerard) (Entered: 01/12/2015)
- 01/12/2015 215 CORPORATE DISCLOSURE STATEMENT filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD identifying Other Affiliate Samsung Electronics Co., Ltd. for Samsung Austin Semiconductor LLC, Samsung Electronics America Inc. (Smith, Michael) (Entered: 01/12/2015)
- 01/12/2015 216 NOTICE by Rembrandt Wireless Technologies LP Joint Notice of Proposed Jury Instructions (Attachments: # 1 Exhibit A, # 2 Exhibit B)(Alavi, Amir) (Entered: 01/12/2015)
- 01/13/2015 217 Additional Attachments to Main Document: 214 Affidavit in Opposition to Motion,,,,. (Haddad, Gerard) (Entered: 01/13/2015)
- 01/13/2015 218 \*\*\*FILED IN ERROR. PLEASE IGNORE.\*\*\*Additional Attachments to Main Document: 213 Sealed Response to Motion,.. (Haddad, Gerard) Modified on 1/14/2015 (ch, ). (Entered: 01/13/2015)
- 01/14/2015 \*\*\*FILED IN ERROR. ORDERS ARE NOT FILE SEPARATELY. Document # 218, Additional Attachment. PLEASE IGNORE.\*\*\* (ch, ) (Entered: 01/14/2015)
- 01/14/2015 219 NOTICE by Rembrandt Wireless Technologies LP Notice of Agreements Reached During Meet and Confer (Alavi, Amir) (Entered: 01/14/2015)
- 01/15/2015 220 NOTICE by Rembrandt Wireless Technologies LP re 219 Notice (Other) Corrected Notice of Agreements Reached During Meet and Confer (Alavi, Amir) (Entered: 01/15/2015)
- 01/15/2015 221 SEALED REPLY to Response to Motion re 189 SEALED MOTION to Exclude Opinions of Roy Weinstein Pursuant to Federal Rules of Evidence 702 and 403 filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Declaration of R. Hermes, # 2 Exhibit K, part 1 of 2, # 3 Exhibit K, part 2 of 2, # 4 Exhibit L)(Higgins, Gabrielle)

(Entered: 01/15/2015)

- 01/15/2015 222 STIPULATION by Rembrandt Wireless Technologies LP, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Hermes, Rebecca) (Entered: 01/15/2015)
- 01/19/2015 223 SEALED SUR-REPLY to Response to Motion re 189 SEALED MOTION to Exclude Opinions of Roy Weinstein Pursuant to Federal Rules of Evidence 702 and 403 filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Declaration of Amir Alavi, # 2 Exhibit A) (Alavi, Amir) (Entered: 01/19/2015)
- 01/20/2015 224 SEALED PATENT SUR-REPLY to Reply to Response to PATENT Motion re 189 SEALED MOTION to Exclude Opinions of Roy Weinstein Pursuant to Federal Rules of Evidence 702 and 403 filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Declaration of Amir Alavi, # 2 Exhibit A)(Alavi, Amir) (Entered: 01/20/2015)
- 01/20/2015 NOTICE of Hearing: Final Pretrial Conference set for 2/2/2015 01:30 PM before Magistrate Judge Roy S. Payne. (bga, ) (Entered: 01/20/2015)
- 01/22/2015 225 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Pretrial Conference held on 1-20-2015 before Judge Roy S. Payne. Court Reporter: Tonya Jackson, Telephone number: 409.654.2833. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 2/16/2015. Redacted Transcript Deadline set for 2/26/2015. Release of Transcript Restriction set for 4/27/2015. (tj, ) (Entered: 01/22/2015)
- 01/22/2015 226 Minute Entry for proceedings held before Magistrate Judge Roy S. Payne: Interim Pretrial Conference held on 1/22/2015. (Court Reporter Tonya Jackson.) (Attachments: # 1 Attorney Sign-In Sheet) (bga, ) (Entered: 01/22/2015)
- 01/23/2015 227 ORDER denying 165 Motion to Strike. Signed by Magistrate Judge Roy S. Payne on 1/23/2015. (ch, ) (Entered: 01/23/2015)
- 01/24/2015 228 ORDER Regarding Mediation. Signed by Magistrate Judge Roy S. Payne on 01/24/2015. (rsp1, ) (Entered: 01/24/2015)
- 01/26/2015 229 Unopposed MOTION to Withdraw as Attorney Frank C. Cimino, Jr. by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order Proposed Order)(Haddad, Gerard) (Entered: 01/26/2015)
- 01/26/2015 230 Supplemental MOTION in Limine Regarding Use of Dr. Paul Schneck's Testimony by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5 (Filed Under Seal), # 6 Text of Proposed Order) (Enger, Eric) (Entered: 01/26/2015)
- 01/26/2015 231 SEALED ADDITIONAL ATTACHMENT to Main Document: 230 Supplemental MOTION in Limine Regarding Use of Dr. Paul Schneck's Testimony. (Attachments: # 1 Exhibit 5) (Enger, Eric) (Entered: 01/26/2015)
- 01/26/2015 232 Additional Attachments to Main Document: 230 Supplemental MOTION in Limine Regarding Use of Dr. Paul Schneck's Testimony.. (Enger, Eric) (Entered: 01/26/2015)
- 01/27/2015 233 REPLY to Response to Motion re 204 Amended SEALED MOTION - Defendants' Motions in Limine SAMSUNG DEFENDANTS REPLY IN SUPPORT OF DEFENDANTS MOTION IN LIMINE NO. 11 (DKT. 204) filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Haddad, Gerard) (Entered: 01/27/2015)
- 01/27/2015 234 Joint MOTION to Amend Order Referring Case to Pretrial Mediation by Rembrandt Wireless Technologies LP, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 01/27/2015)
- 01/27/2015 235 Unopposed MOTION for Leave to File Sur-Reply to Defendants' Reply In Support of Their Motion in Limine No. 11 by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Jones, Miranda) (Entered: 01/27/2015)
- 01/27/2015 236 SUR-REPLY to Reply to Response to Motion re 204 Amended SEALED MOTION - Defendants' Motions in Limine No. 11 filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Declaration of Miranda Y. Jones, # 2 Exhibit Q)(Jones, Miranda) (Entered: 01/27/2015)

- 01/28/2015 237 ORDER granting 229 Motion to Withdraw as Attorney. Attorney Frank C Cimino, Jr terminated. Signed by Magistrate Judge Roy S. Payne on 1/28/2015. (ch, ) (Entered: 01/28/2015)
- 01/28/2015 238 ORDER REGARDING EXHIBITS. Signed by Judge Rodney Gilstrap on 1/28/2015. (ch, ) (Entered: 01/28/2015)
- 01/28/2015 239 ORDER granting in part and denying in part 234 Motion to Amend Order Referring Case to Pretrial Mediation. Signed by Magistrate Judge Roy S. Payne on 1/28/2015. (rsp1, ) (Entered: 01/28/2015)
- 01/28/2015 240 NOTICE by Rembrandt Wireless Technologies LP re 204 Amended SEALED MOTION - Defendants' Motions in Limine Recent Factual Developments (Attachments: # 1 Exhibit 1, # 2 Exhibit 2)(Enger, Eric) (Entered: 01/28/2015)
- 01/29/2015 241 Defendants Samsung's Notice of Recent Factual Development Regarding Samsung's Motion to Exclude Opinions of Roy Weinstein and Samsung's Motion in Limine No. 1. Sealed Document. (Attachments: # 1 Attachment 1)(Smith, Michael) (Entered: 01/29/2015)
- 01/29/2015 242 ORDER denying 112 Motion to Stay Pending Inter Parties Review. Signed by Magistrate Judge Roy S. Payne on 1/29/2015. (ch, ) (Entered: 01/29/2015)
- 01/29/2015 243 ORDER denying 189 Sealed Motion. Signed by Magistrate Judge Roy S. Payne on 01/29/2015. (nkl, ) (Entered: 01/29/2015)
- 01/29/2015 244 Unopposed MOTION to Seal the Courtroom at Trial During Discussion of the Rembrandt/BlackBerry Settlement Payment Amount and/or Rembrandt's Allocation Thereof by BlackBerry Corp., Blackberry, Ltd. (Attachments: # 1 Text of Proposed Order) (Hung, Richard) (Entered: 01/29/2015)
- 01/29/2015 245 \*\*\*FILED IN ERROR. PLEASE IGNORE.\*\*\*SEALED RESPONSE to Motion re 230 Supplemental MOTION in Limine Regarding Use of Dr. Paul Schneck's Testimony filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order Denying Motion)(Haddad, Gerard) Modified on 1/30/2015 (ch, ). (Entered: 01/29/2015)
- 01/29/2015 246 AFFIDAVIT in Opposition re 230 Supplemental MOTION in Limine Regarding Use of Dr. Paul Schneck's Testimony / Declaration of Gerard A. Haddad in Support of Defendants' Opposition to Rembrandt's Supplemental Motion in Limine Regarding Use of Dr. Paul Schneck's Testimony filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Affidavit Exhibit 1 to Haddad Declaration)(Haddad, Gerard) (Entered: 01/29/2015)
- 01/30/2015 247 SEALED RESPONSE to Motion re 230 Supplemental MOTION in Limine Regarding Use of Dr. Paul Schneck's Testimony filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order Denying Supplemental Motion in Limine Regarding Use of Dr. Paul Schneck's Testimony)(Haddad, Gerard) (Entered: 01/30/2015)
- 01/30/2015 \*\*\*FILED IN ERROR. PER ATTORNEY Document # 245, Sealed Response. PLEASE IGNORE.\*\*\* (ch, ) (Entered: 01/30/2015)
- 01/31/2015 248 ORDER REGARDING MOTION IN LIMINE - granting in part and denying in part 197 Motion in Limine; granting in part and denying in part 204 Sealed Motion. Signed by Magistrate Judge Roy S. Payne on 1/30/15. (ch, ) (Entered: 01/31/2015)
- 02/02/2015 249 STIPULATION regarding Witnesses, Demonstratives and Exhibits by Rembrandt Wireless Technologies LP, Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Ward, Thomas) (Entered: 02/02/2015)
- 02/02/2015 282 Minute Entry for proceedings held before Magistrate Judge Roy S. Payne: Final Pretrial Conference held on 2/2/2015. (Court Reporter Shelly Holmes.) (Attachments: # 1 Attorney Sign-In Sheet) (bga, ) (Entered: 02/12/2015)
- 02/03/2015 250 Proposed Jury Instructions by Rembrandt Wireless Technologies LP. (Attachments: # 1 Joint Preliminary Jury Instructions)(Alavi, Amir) (Entered: 02/03/2015)
- 02/03/2015 251 ORDER denying 230 Motion in Limine Regarding Use of Dr. Paul Schecks's Testimony. Signed by Magistrate Judge Roy S. Payne on 2/3/2015. (ch, ) (Entered: 02/03/2015)
- 02/03/2015 252 ORDER denying 244 Motion to Seal The Courtroom at Trial. Signed by Magistrate Judge Roy S. Payne on 2/3/2015. (ch, ) (Entered: 02/03/2015)



- 02/03/2015 253 ORDER REGARDING JURY INSTRUCTIONS AND VERDICT FORMS - Signed by Magistrate Judge Roy S. Payne on 2/3/2015. (ch, ) (Entered: 02/03/2015)
- 02/03/2015 254 ORDER granting 235 Motion for Leave to File Sur-Reply to Dft's Reply in Support of their Motion in Limine No. 11. Signed by Magistrate Judge Roy S. Payne on 2/3/2015. (ch, ) (Entered: 02/03/2015)
- 02/03/2015 255 Exhibit List Eleventh Amended Trial Exhibit List by Rembrandt Wireless Technologies LP.. (Alavi, Amir) (Entered: 02/03/2015)
- 02/03/2015 256 NOTICE by Rembrandt Wireless Technologies LP Rembrandt's Deposition Designations (Enger, Eric) (Entered: 02/03/2015)
- 02/03/2015 257 Exhibit List Defendants' Tenth Amended Trial Exhibit List by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD.. (Hermes, Rebecca) (Entered: 02/03/2015)
- 02/03/2015 258 NOTICE by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD Defendants' Deposition Designations (Hermes, Rebecca) (Entered: 02/03/2015)
- 02/04/2015 259 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/2/15 (Pretrial Hearing) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR, Telephone number: (903) 923-7464. &lt;P&gt;NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov&lt;P&gt; Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/2/2015. Redacted Transcript Deadline set for 3/12/2015. Release of Transcript Restriction set for 5/8/2015. (sholmes, ) (Entered: 02/04/2015)
- 02/04/2015 260 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/3/15 (Pretrial Hearing) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR, Telephone number: (903) 923-7464. &lt;P&gt;NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov&lt;P&gt; Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/2/2015. Redacted Transcript Deadline set for 3/12/2015. Release of Transcript Restriction set for 5/8/2015. (sholmes, ) (Entered: 02/04/2015)
- 02/05/2015 261 REPORT of Mediation by William Jospheh Cornelius, Jr. Mediation result: IMPASSE(Cornelius, William) (Entered: 02/05/2015)
- 02/05/2015 262 REPORT AND RECOMMENDATIONS re 167 MOTION for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark filed by Sansung Telecommunications America LLC, Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc.. Signed by Magistrate Judge Roy S. Payne on 2/5/2015. (ch, ) (Entered: 02/05/2015)
- 02/05/2015 263 Sealed Document. Defendant Samsung's Objections to Magistrate Judge's Evidentiary Rulings (Smith, Michael) (Entered: 02/05/2015)
- 02/05/2015 264 Sealed Document. Defendant Samsung's Objection to Magistrate Judge's Order Regarding Motion to Exclude Opinions of Roy Weinstein (Smith, Michael) (Entered: 02/05/2015)
- 02/06/2015 265 ORDER ADOPTING Magistrate Judge's Order Denying Dft's Motion to Exclude Opinions of Roy Weinstein. Signed by Judge Rodney Gilstrap on 2/6/2015. (ch, ) Modified on 2/6/2015 (ch, ). (Entered: 02/06/2015)
- 02/06/2015 266 ORDER ADOPTING MAGISTRATE JUDGE'S EVIDENTIARY RULINGS re 248 Order on Motion in Limine, Order on Sealed Motion. Signed by Judge Rodney Gilstrap on 2/6/2015. (ch, ) (Entered: 02/06/2015)
- 02/06/2015 267 ORDER finding as moot 194 Sealed Motion in Limine in view of 204 Amended Defendants' Motions in Limine. Signed by Magistrate Judge Roy S. Payne on 02/06/2015. (No document attached.) (rsp1, ) (Entered: 02/06/2015)
- 02/06/2015 268 ORDER finding as moot 122 Motion to Sever/Separate Trial in view of 172 Order Granting Stipulation of Dismissal as to Blackberry Defendant.. Signed by Magistrate Judge Roy S. Payne on 02/06/2015. (No document attached.) (rsp1, ) (Entered: 02/06/2015)

- 02/06/2015 269 ORDER granting in part and denying in part 88 Motion to Compel as per party agreement and in accordance with the rulings set forth during the May 16, 2014 hearing on the same. See 105 Minute Entry from May 16, 2014 Hearing. Signed by Magistrate Judge Roy S. Payne on 02/06/2015. (No document attached.) (rsp1, ) (Entered: 02/06/2015)
- 02/06/2015 270 OBJECTION to 262 Report and Recommendations by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Smith, Michael) (Entered: 02/06/2015)
- 02/06/2015 271 MOTION to Seal Blackberry's Motion to Seal the Courtroom at Trial During Discussion of Rembrandt's Computed Effective Royalty Rate of the Rembrandt/Blackberry Settlement by BlackBerry Corp., Blackberry, Ltd. (Attachments: # 1 Text of Proposed Order)(Hung, Richard) (Entered: 02/06/2015)
- 02/08/2015 272 Opposed MOTION to Extend the Trial Time Limit to 12 Hours Per Side by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order) (Smith, Michael) (Entered: 02/08/2015)
- 02/08/2015 273 Proposed Jury Instructions by Rembrandt Wireless Technologies LP. (Attachments: # 1 Joint Proposed Final Jury Instructions)(Alavi, Amir) (Entered: 02/08/2015)
- 02/08/2015 274 AGREEMENT FOR VERDICT by Jury of Less than Six Members by Rembrandt Wireless Technologies LP.. (Attachments: # 1 Samsung's Proposed Verdict Form)(Alavi, Amir) (Entered: 02/08/2015)
- 02/08/2015 275 NOTICE by Rembrandt Wireless Technologies LP Plaintiff's Proposed Verdict Form (Alavi, Amir) (Entered: 02/08/2015)
- 02/08/2015 276 NOTICE by Rembrandt Wireless Technologies LP re 248 Order on Motion in Limine, Order on Sealed Motion Plaintiff Rembrandt's Objections to Magistrate Judge's Order on Rembrandt's Motion in Limine No. 4 (Alavi, Amir) (Entered: 02/08/2015)
- 02/09/2015 277 ORDER ADOPTING MAGISTRATE JUDGE REPORT AND RECOMMENDATION DENYING DEFENDANT'S MOTION FOR SUMMARY JUDGMENT re 262 Report and Recommendations,. Signed by Judge Rodney Gilstrap on 2/9/2015. (ch, ) (Entered: 02/09/2015)
- 02/09/2015 278 ORDER ADOPTING MAGISTRATE JUDGE'S ORDER ON REMBRANDT'S MOTION IN LIMINE 4 re 248 Order on Motion in Limine, Order on Sealed Motion. Signed by Judge Rodney Gilstrap on 2/9/2015. (ch, ) (Entered: 02/09/2015)
- 02/09/2015 279 Amended MOTION to Seal BlackBerry's Motion to Seal the Courtroom at Trial During Discussion of Rembrandt's Computed Effective Royalty Rate of the Rembrandt/BlackBerry Settlement by BlackBerry Corp., Blackberry, Ltd. (Attachments: # 1 Text of Proposed Order)(Hung, Richard) (Entered: 02/09/2015)
- 02/09/2015 280 ORDER denying 272 Motion to Extend the Trial Time Limit to 12 hours Per Side. Signed by Judge Rodney Gilstrap on 2/9/2015. (ch, ) (Entered: 02/09/2015)
- 02/09/2015 302 Minute Entry for proceedings held before Judge Rodney Gilstrap: Jury Selection held on 2/9/2015, Jury Trial held on 2/9/2015. (Court Reporter Shelly Holmes, CSR-TCRR.) (Attachments: # 1 Attorney Attendance Sheet) (jml) (Entered: 02/17/2015)
- 02/10/2015 281 NOTICE by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC SAMSUNGS IDENTIFICATION OF CLAIM ELEMENT ABBREVIATIONS (Haddad, Gerard) (Entered: 02/10/2015)
- 02/10/2015 303 Minute Entry for proceedings held before Judge Rodney Gilstrap: Jury Trial held on 2/10/2015. (Court Reporter Shelly Holmes, CSR-TCRR.) (Attachments: # 1 Attorney Attendance Sheet) (jml) (Entered: 02/17/2015)
- 02/11/2015 304 Minute Entry for proceedings held before Judge Rodney Gilstrap: Jury Trial held on 2/11/2015. (Court Reporter Shelly Holmes, CSR-TCRR.) (Attachments: # 1 Attorney Attendance Sheet) (jml) (Entered: 02/17/2015)
- 02/12/2015 305 Minute Entry for proceedings held before Judge Rodney Gilstrap: Jury Trial held on 2/12/2015. (Court Reporter Shelly Holmes, CSR-TCRR.) (Attachments: # 1 Attorney Attendance Sheet) (jml) (Entered: 02/17/2015)
- 02/13/2015 283 MOTION Memorandum in Support of Its Rule 50(a) Motion for Judgment as a Matter of Law by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC. (Smith, Michael) (Entered: 02/13/2015)
- 02/13/2015 284 Jury Trial Exhibit List by Rembrandt Wireless Technologies LP.. (mrm, ) (Entered: 02/13/2015)

- 02/13/2015 285 Jury Trial Exhibit List by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC.. (mrm, ) (Entered: 02/13/2015)
- 02/13/2015 286 SEALED Jury Notes. (mrm, ) (Entered: 02/13/2015)
- 02/13/2015 287 Sealed Jury Verdict. (mrm, ) (Entered: 02/13/2015)
- 02/13/2015 288 JURY VERDICT. (Redacted)(mrm, ) (Entered: 02/13/2015)
- 02/13/2015 289 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/9/15 (Trial Transcript - Morning Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 290 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/9/15 (Trial Transcript - Afternoon Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 291 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/10/15 (Trial Transcript - Morning Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 292 Sealed Transcript. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 293 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/10/15 (Trial Transcript - Afternoon Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 294 Sealed Transcript. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 295 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/11/15 (Trial Transcript - Morning Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court

Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)

- 02/13/2015 296 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/11/15 (Trial Transcript - Afternoon Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 297 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/12/15 (Trial Transcript - Morning Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 298 Sealed Transcript. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 299 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/12/15 (Trial Transcript - Afternoon Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 300 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/13/15 (Trial Transcript - Morning Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 301 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 2/13/15 (Trial Transcript - Afternoon Session) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR,Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 3/9/2015. Redacted Transcript Deadline set for 3/19/2015. Release of Transcript Restriction set for 5/18/2015. (sholmes, ) (Entered: 02/13/2015)
- 02/13/2015 306 Minute Entry for proceedings held before Judge Rodney Gilstrap: Jury Trial completed on

- 2/13/2015. (Court Reporter Shelly Holmes, CSR-TCRR.) (Attachments: # 1 Attorney Attendance Sheet) (jml) (Entered: 02/17/2015)
- 02/26/2015 307 ORDER - The Court sua sponte orders the parties to mediate their disputes before the Hon. Bill Cornelius within the next 45 days. Signed by Judge Rodney Gilstrap on 2/25/2015. (ch, ) (Entered: 02/26/2015)
- 03/23/2015 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Exhibit 4, # 6 Exhibit 5, # 7 Exhibit 6, # 8 Exhibit 7, # 9 Exhibit 8, # 10 Exhibit 9, # 11 Exhibit 10, # 12 Exhibit 11, # 13 Exhibit 12)(Enger, Eric) (Entered: 03/23/2015)
- 03/23/2015 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order, # 2 Exhibit A)(Enger, Eric) (Entered: 03/23/2015)
- 03/23/2015 310 SEALED Exhibit A to Main Document: 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs. (Attachments: # 1 Exhibit A)(Enger, Eric) (Entered: 03/23/2015)
- 03/26/2015 311 MOTION for Extension of Time to File Response/Reply as to 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 03/26/2015)
- 03/30/2015 312 ORDER granting 311 MOTION for Extension of Time to File Response/Reply. Signed by Judge Rodney Gilstrap on 3/29/2015. (ch, ) (Entered: 03/30/2015)
- 03/31/2015 313 REPORT of Mediation by William Josph Cornelius, Jr. Mediation result: IMPASSE(Cornelius, William) (Entered: 03/31/2015)
- 04/16/2015 314 MOTION Entry of Judgment re 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages, 288 Jury Verdict, 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order Proposed Judgment)(Enger, Eric) (Entered: 04/16/2015)
- 04/16/2015 315 RESPONSE to Motion re 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 04/16/2015)
- 04/16/2015 316 SEALED ADDITIONAL ATTACHMENTS to Main Document: 315 Response to Motion,. (Attachments: # 1 Declaration of Stephen L. Becker, Ph.D., # 2 Exhibit A, # 3 Exhibit B) (Smith, Michael) (Entered: 04/16/2015)
- 04/16/2015 317 SEALED RESPONSE to Motion re 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Declaration of Deanne K. Cevasco, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Text of Proposed Order)(Smith, Michael) (Entered: 04/16/2015)
- 04/27/2015 318 SEALED REPLY in Support of Its Motion re 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 13, # 2 Exhibit 14)(Enger, Eric) (Entered: 04/27/2015)
- 04/27/2015 319 REPLY to Response to Motion re 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit C)(Enger, Eric) (Entered: 04/27/2015)
- 04/27/2015 320 SEALED Exhibit B to Main Document: 319 Reply to Response to Motion. (Attachments: # 1 Exhibit B)(Enger, Eric) (Entered: 04/27/2015)
- 05/04/2015 321 RESPONSE to Motion re 314 MOTION Entry of Judgment re 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages, 288 Jury Verdict, 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs filed by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Judgment)(Smith, Michael) (Entered: 05/04/2015)
- 05/14/2015 322 REPLY to Response to Motion re 314 MOTION Entry of Judgment re 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages, 288 Jury Verdict, 309 MOTION for Prejudgment Interest, Postjudgment Interest, and Taxable Costs filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5)(Enger, Eric) (Entered: 05/14/2015)

- 07/03/2015 323 NOTICE by Rembrandt Wireless Technologies LP re 318 Sealed Reply to Response to Motion, 308 SEALED MOTION for an Ongoing Royalty and Supplemental Damages of Relevant Determinations From Related Proceedings (Attachments: # 1 Exhibit A)(Enger, Eric) (Entered: 07/03/2015)
- 07/09/2015 324 Joint MOTION Entry of a Post-Trial Briefing Schedule by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Larson, Blaine) (Entered: 07/09/2015)
- 07/09/2015 325 ORDER granting 324 Joint MOTION Entry of a Post-Trial Briefing Schedule. Motion Hearing for all post verdict motions is set for 10/29/2015 01:30 PM before Judge Rodney Gilstrap. Signed by Judge Rodney Gilstrap on 7/9/2015. (ch, ) (Entered: 07/09/2015)
- 07/10/2015 326 RESPONSE to 323 Notice (Other), of Relevant Determinations from Related Proceedings filed by Samsung Electronics Co LTD. (Smith, Michael) (Entered: 07/10/2015)
- 07/17/2015 327 MOTION to Continue the Hearing Date for all Post-Trial Motions by Samsung Electronics America Inc. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 07/17/2015)
- 08/07/2015 328 SEALED MOTION for Judgment as a Matter of Law and/or Motion for New Trial on Damages Issues by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 08/07/2015)
- 08/07/2015 329 MOTION for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD. (Attachments: # 1 Declaration of Vincent Ling, # 2 Exhibit A, # 3 Text of Proposed Order)(Smith, Michael) (Entered: 08/07/2015)
- 08/07/2015 330 SEALED ADDITIONAL ATTACHMENTS to Main Document: 329 MOTION for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues. (Attachments: # 1 Exhibit B, # 2 Exhibit C)(Smith, Michael) (Entered: 08/07/2015)
- 08/07/2015 331 Unopposed MOTION for Bill of Costs Rembrandt's Unopposed Motion for Entry of An Agreed Bill of Costs by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit A, # 2 Text of Proposed Order)(Enger, Eric) (Entered: 08/07/2015)
- 08/11/2015 332 ORDER granting 331 Motion for Bill of Costs. Signed by Judge Rodney Gilstrap on 8/11/2015. (ch, ) (Entered: 08/11/2015)
- 08/20/2015 NOTICE of Hearing on Motions: Motion Hearing RESET for 11/3/2015 01:30 PM in Ctrm 106 (Marshall) before Judge Rodney Gilstrap. (jml) (Entered: 08/20/2015)
- 08/23/2015 333 Unopposed MOTION to Withdraw as Attorney re Alden Harris by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Enger, Eric) (Entered: 08/23/2015)
- 08/25/2015 334 ORDER granting 333 Motion to Withdraw as Attorney. Attorney Alden Harris terminated. Signed by Judge Rodney Gilstrap on 8/24/2015. (ch, ) (Entered: 08/25/2015)
- 09/07/2015 335 RESPONSE in Opposition re 329 MOTION for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Exhibit 4, # 6 Exhibit 5)(Enger, Eric) (Entered: 09/07/2015)
- 09/07/2015 336 SEALED RESPONSE to Motion re 328 SEALED MOTION for Judgment as a Matter of Law and/or Motion for New Trial on Damages Issues filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 1, # 2 Text of Proposed Order)(Alavi, Amir) (Entered: 09/07/2015)
- 09/22/2015 337 SEALED REPLY to Response to Motion re 328 SEALED MOTION for Judgment as a Matter of Law and/or Motion for New Trial on Damages Issues filed by Samsung Electronics America Inc, Samsung Electronics Co LTD. (Smith, Michael) (Entered: 09/22/2015)
- 09/22/2015 338 REPLY to Response to Motion re 329 MOTION for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues filed by Samsung Electronics America Inc, Samsung Electronics Co LTD. (Attachments: # 1 Declaration, # 2 Exhibit D)(Smith, Michael) (Entered: 09/22/2015)
- 10/06/2015 339 NOTICE by Samsung Electronics America Inc, Samsung Electronics Co LTD FINAL WRITTEN DECISIONS IN RELATED INTER PARTES REVIEW PROCEEDINGS (Attachments: # 1 Tab 1, # 2 Tab 2, # 3 Tab3)(Smith, Michael) (Entered: 10/06/2015)
- 10/07/2015 340 SUR-REPLY to Reply to Response to Motion re 329 MOTION for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues filed by Rembrandt Wireless Technologies LP. (Attachments: # 1 Exhibit 6, # 2 Exhibit 7)(Enger, Eric) (Entered: 10/07/2015)
- 10/07/2015 341 RESPONSE to 339 Notice (Other) of Final Written Decisions in Related Inter Partes Review

- Proceedings filed by Rembrandt Wireless Technologies LP. (Enger, Eric) (Entered: 10/07/2015)
- 10/07/2015 342 SEALED REPLY to Response to Motion re 328 SEALED MOTION for Judgment as a Matter of Law and/or Motion for New Trial on Damages Issues filed by Rembrandt Wireless Technologies LP. (Aycock, Jamie) (Entered: 10/07/2015)
- 11/03/2015 343 Minute Entry for proceedings held before Judge Rodney Gilstrap: Motions Hearing held on 11/3/2015 re 283 MOTION Memorandum in Support of Its Rule 50(a) Motion for Judgment as a Matter of Law filed by Samsung Telecommunications America LLC, Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc, 329 MOTION for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues filed by Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc, 328 SEALED MOTION for Judgment as a Matter of Law and/or Motion for New Trial on Damages Issues filed by Samsung Austin Semiconductor LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc. (Court Reporter Shelly Holmes, CSR-TCRR.) (Attachments: # 1 Attorney Attendance Sheet) (jml) (Entered: 11/06/2015)
- 12/09/2015 344 NOTICE by Samsung Electronics America Inc of RELEVANT AUTHORITY (Attachments: # 1 TAB 1)(Smith, Michael) (Entered: 12/09/2015)
- 12/09/2015 345 Additional Attachments to Main Document: 344 Notice (Other).. (Smith, Michael) (Entered: 12/09/2015)
- 12/14/2015 346 SEALED RESPONSE by Rembrandt Wireless Technologies LP to 344 Notice (Other), 345 Additional Attachments to Main Document filed by Rembrandt Wireless Technologies LP. (Alavi, Amir) (Entered: 12/14/2015)
- 12/21/2015 347 Unopposed MOTION to Withdraw as Attorney regarding Blaine A. Larson by Rembrandt Wireless Technologies LP. (Attachments: # 1 Text of Proposed Order)(Enger, Eric) (Entered: 12/21/2015)
- 12/22/2015 348 ORDER granting 347 Motion to Withdraw as Attorney. Attorney Blaine Andrew Larson terminated. Signed by Judge Rodney Gilstrap on 12/22/2015. (ch, ) (Entered: 12/22/2015)
- 01/20/2016 349 NOTICE OF FILING OF OFFICIAL TRANSCRIPT of Proceedings held on 11/3/15 (Post Trial Motions Hearing) before Judge Rodney Gilstrap. Court Reporter/Transcriber: Shelly Holmes, CSR-TCRR, Telephone number: (903) 923-7464. NOTICE RE REDACTION OF TRANSCRIPTS: The parties have seven (7) business days to file with the Court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript will be made remotely electronically available to the public without redaction after 90 calendar days. The policy is located on our website at www.txed.uscourts.gov Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER.. Redaction Request due 2/15/2016. Redacted Transcript Deadline set for 2/25/2016. Release of Transcript Restriction set for 4/22/2016. (sholmes, ) (Entered: 01/20/2016)
- 01/29/2016 350 MEMORANDUM OPINION AND ORDER. Signed by Judge Rodney Gilstrap on 1/29/2016. (ch, ) (Entered: 01/29/2016)
- 01/29/2016 351 NOTICE of Intent to Request Redaction by Amir H. Alavi re 349 Transcript,,,,. (Alavi, Amir) (Entered: 01/29/2016)
- 02/17/2016 352 MEMORANDUM OPINION AND ORDER -. Signed by Judge Rodney Gilstrap on 2/17/2016. (ch, ) (Entered: 02/17/2016)
- 02/19/2016 353 NOTICE by Samsung Austin Semiconductor LLC, Samsung Electronics America Inc, Samsung Electronics Co LTD, Samsung Telecommunications America LLC CHANGE OF FIRM AFFILIATION (Smith, Michael) (Entered: 02/19/2016)
- 02/26/2016 354 ORDER - ORDERS that the issue of post-trial relief as set forth in Rembrandts motion noted above (Dkt. No. 308) is hereby SEVERED from this case and STAYED for forty-five (45) days from this date. It is further ORDERED that the Clerk of the Court shall assign a new case number for such severed issue, and, further, the Clerk shall TRANSFER Rembrandts Motion for Ongoing Royalty and Supplemental Damages into such new case. The new case number is 2:16-cv-170. Signed by Judge Rodney Gilstrap on 2/25/2016. (ch, ) (Entered: 02/26/2016)
- 02/26/2016 355 FINAL JUDGMENT. Signed by Judge Rodney Gilstrap on 2/25/2016. (ch, ) (Entered: 02/26/2016)
- 03/08/2016 356 Agreed MOTION TO ENTER STIPULATED ORDER ON EXECUTION OF JUDGMENT AGAINST SAMSUNG by Samsung Electronics America Inc, Samsung Electronics Co LTD. (Attachments: # 1 Exhibit A, # 2 Text of Proposed Order)(Smith, Michael) (Entered: 03/08/2016)

03/08/2016)

03/09/2016 357 STIPULATED ORDER ON EXECUTION OF JUDGMENT AGAINST SAMSUNG. Signed by Judge Rodney Gilstrap on 3/9/2016. (ch, ) (Entered: 03/09/2016)

03/17/2016 358 NOTICE OF APPEAL - FEDERAL CIRCUIT by Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. Filing fee \$ 505, receipt number 0540-5664373. (Smith, Michael) (Entered: 03/17/2016)

03/18/2016 Transmission of Notice of Appeal, 355 Final Judgment, 352 Memorandum Opinion & Order, 350 Memorandum Opinion & Order, 277 Order Adopting, 266 Order Adopting, 265 Order Adopting, 114 Claim Construction Order, and certified copy of Docket Sheet to US Court of Appeals, Federal Circuit by separate email. re 358 Notice of Appeal - FEDERAL CIRCUIT (dlc, ) (Entered: 03/18/2016)

03/18/2016 359 ACKNOWLEDGMENT OF RECEIPT on 3/18/16, by USCA-FEDERAL CIRCUIT as to 114 Claim Construction Order, 266 Order Adopting, 350 Memorandum & Opinion, 277 Order Adopting, 358 Notice of Appeal - FEDERAL CIRCUIT, 265 Order Adopting Report and Recommendations, 352 Memorandum & Opinion, 355 Final Judgment and certified copy of Docket Sheet. (dlc, ) (Entered: 03/18/2016)

03/18/2016 360 NOTICE of Docketing Notice of Appeal from USCA-FEDERAL CIRCUIT re 358 Notice of Appeal - FEDERAL CIRCUIT filed by Sansung Telecommunications America LLC, Samsung Electronics Co LTD, Samsung Electronics America Inc. USCA Case Number 16-1729 (dlc, ) (Entered: 03/18/2016)

07/15/2016 361 Unopposed MOTION to Withdraw as Attorney VINCENT Y. LING by Samsung Electronics America Inc, Samsung Electronics Co LTD, Sansung Telecommunications America LLC. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 07/15/2016)

07/19/2016 362 ORDER granting 361 Motion to Withdraw as Attorney. Attorney Vincent Y Ling terminated. Signed by Judge Rodney Gilstrap on 7/18/2016. (ch, ) (Entered: 07/19/2016)

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## Citing References (110)

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<p><b>1. SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b></p> <p>2015 WL 410654, *1+ , Patent Tr. &amp; App. Bd.</p> <p>Petitioner filed a Petition (Paper 1, "Pet.") requesting an inter partes review of claims 23, 25, 29, 30, and 41 of U.S. Patent No. 8,023,580 B2 (Ex. 1301, "the '580 patent")....</p>	Jan. 28, 2015	Administrative Decision		—
Examined by	<p><b>2. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b></p> <p>2014 WL 4787236, *1+ , Patent Tr. &amp; App. Bd.</p> <p>Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner")...</p>	Sep. 23, 2014	Administrative Decision		—
Examined by	<p><b>3. SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b></p> <p>2014 WL 4787237, *1+ , Patent Tr. &amp; App. Bd.</p> <p>Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner")...</p>	Sep. 23, 2014	Administrative Decision		—
Examined by	<p><b>4. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of Place</small></p> <p>SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC; Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES...</p> <p>2015 WL 1932304, *1+ , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Apr. 29, 2015	Administrative Filing		—
Examined by	<p><b>5. Petitioner's Reply in Support of its Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of Place</small></p> <p>SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit...</p> <p>2015 WL 499134, *1+ , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Feb. 06, 2015	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<b>6. Petitioner's Reply in Support of its Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2015 WL 499135, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Feb. 06, 2015	Administrative Filing		—
Examined by	<b>7. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 6779149, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Dec. 01, 2014	Administrative Filing		—
Examined by	<b>8. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 6779150, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Dec. 01, 2014	Administrative Filing		—
Examined by	<b>9. Motion for Joinder to Related Inter Partes Review of U.S. Patent No. 8,023,580 (Case No. IPR2014-00519) Under 37 C.F.R. s 42.122(b)</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 6474781, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 21, 2014	Administrative Filing		—
Examined by	<b>10. Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 6474782, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 21, 2014	Administrative Filing		—
Examined by	<b>11. Motion for Joinder to Related Inter Partes Review of U.S. Patent No. 8,023,580 (Case No. IPR2014-00518) Under 37 C.F.R. s 42.122(b)</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 6474792, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 21, 2014	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<b>12. Petition for Inter Partes Review of Claims 2, 19, 49, 52, 53, and 59 of U.S. Patent No. 8,023,580</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 6474793, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 21, 2014	Administrative Filing		—
Examined by	<b>13. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 4647753, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Sep. 18, 2014	Administrative Filing		—
Examined by	<b>14. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 4647754, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Sep. 18, 2014	Administrative Filing		—
Examined by	<b>15. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 4647755, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Sep. 18, 2014	Administrative Filing		—
Examined by	<b>16. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 4647756, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Sep. 18, 2014	Administrative Filing		—
Examined by	<b>17. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 4647757, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Sep. 18, 2014	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<b>18. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 4647758, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Sep. 18, 2014	Administrative Filing		—
Examined by	<b>19. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 2990596, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	July 03, 2014	Administrative Filing		—
Examined by	<b>20. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 2990597, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	July 03, 2014	Administrative Filing		—
Examined by	<b>21. Patent Owner Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 3002812, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	July 03, 2014	Administrative Filing		—
Examined by	<b>22. Patent Owner's Preliminary Response to Petition Pursuant to 37 C.F.R. s 42.107</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 3002813, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	July 03, 2014	Administrative Filing		—
Examined by	<b>23. Amended Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 1333915, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Apr. 03, 2014	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<b>24. Amended Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1333917, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Apr. 03, 2014	Administrative Filing		—
Examined by	<b>25. Amended Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1333918, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Apr. 03, 2014	Administrative Filing		—
Examined by	<b>26. Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1230285, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Mar. 20, 2014	Administrative Filing		—
Examined by	<b>27. Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1230287, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Mar. 20, 2014	Administrative Filing		—
Examined by	<b>28. Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1230288, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Mar. 20, 2014	Administrative Filing		—
Examined by	<b>29. Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1230286, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Mar. 19, 2014	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<b>30. Amended Petition for Inter Partes Review of U.S. Patent No. 8,023,580</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 1333916, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Mar. 19, 2014	Administrative Filing		—
Examined by	<b>31. Brief for Plaintiff-Appellee Rembrandt Wireless Technologies, LP</b> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff - Appellee, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., Samsung Telecommunicat... 2016 WL 4035648, *1+ , Fed.Cir. (Appellate Brief)	July 21, 2016	Brief		—
Examined by	<b>32. Non-Confidential Brief of Defendants-Appellants</b> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff-Appellee, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., Samsung Telecommunicatio... 2016 WL 3167522, *1+ , Fed.Cir. (Appellate Brief)	May 31, 2016	Brief		—
Examined by	<b>33. Rembrandt Wireless Technologies LP's Third Amended Complaint for Patent Infringement</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2014 WL 4408415, *1+ , E.D.Tex. (Trial Pleading)	Mar. 13, 2014	Petition		—
Examined by	<b>34. Samsung Defendants' Answer to Rembrandt Wireless Technologies Lp's Second Amended Complaint for Patent Infringement</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., Samsung Telecommunications Americ... 2013 WL 12089522, *1+ , E.D.Tex. (Trial Pleading)	July 10, 2013	Petition		—
Examined by	<b>35. Rembrandt Wireless Technologies LP's Second Amended Complaint for Patent Infringement</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2013 WL 12089519, *1+ , E.D.Tex. (Trial Pleading)	June 05, 2013	Petition		—
Examined by	<b>36. Rembrandt Wireless Technologies LP's Complaint for Patent Infringement</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, LLC; Samsung Telecommunications America,... 2013 WL 1155028, *1+ , E.D.Tex. (Trial Pleading)	Mar. 15, 2013	Petition		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	<b>37. Defendant Samsung's Memorandum in Support of its Rule 50(a) Motion for Judgment as a Matter of Law</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications Americ... 2015 WL 998897, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Feb. 13, 2015	Motion		—
Examined by	<b>38. Rembrandt's Response in Opposition to Defendants' Motion for Summary Judgment of no Damages Prior to the Filing Date of the Complaint for Failure to M...</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2014 WL 8240219, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Dec. 15, 2014	Motion		—
Examined by	<b>39. Rembrandt's Response in Opposition to Defendants' Motion for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to M...</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2014 WL 12487730, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Dec. 15, 2014	Motion		—
Examined by	<b>40. Defendants' Motion for Summary Judgment of no Damages Prior to the Filing Date of the Complaint for Failure to Mark</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., Samsung Telecommunications Americ... 2014 WL 8240184, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Nov. 26, 2014	Motion		—
Examined by	<b>41. Defendants' Motion for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to Mark</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., Samsung Telecommunications Americ... 2014 WL 12487734, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Nov. 26, 2014	Motion		—
Examined by	<b>42. Rembrandt's Opening Claim Construction Brief</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, v. SAMSUNG ELECTRONICS CO. LTD., et al. 2014 WL 2968267, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Apr. 17, 2014	Motion		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Discussed by	<p><b>43. Rembrandt Wireless Technologies, LP v. Samsung Electronics Co., Ltd.</b> 2016 WL 633909, *1+ , E.D.Tex.</p> <p>Before the Court is Samsung Defendants' ("Samsung") Rule 50(b) Renewed Motion for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Liability Issues (Dkt. No....</p>	Feb. 17, 2016	Case		—
Discussed by	<p><b>44. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2015 WL 410653, *1+ , Patent Tr. &amp; App. Bd.</p> <p>Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner") filed...</p>	Jan. 28, 2015	Administrative Decision		—
Discussed by	<p><b>45. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2014 WL 4537477, *1+ , Patent Tr. &amp; App. Bd.</p> <p>Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner")...</p>	Sep. 09, 2014	Administrative Decision		—
Discussed by	<p><b>46. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2014 WL 4537478, *1+ , Patent Tr. &amp; App. Bd.</p> <p>Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner")...</p>	Sep. 09, 2014	Administrative Decision		—
Discussed by	<p><b>47. Unopposed motion for Pro Hac Vice Admission of Brian P. Biddinger</b> <a href="#">Get Of Plan</a> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 1360916, *1+ , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Mar. 25, 2015	Administrative Filing		—



Treatment	Title	Date	Type	Depth	Headnote(s)
Discussed by	<b>48. Unopposed Motion for Pro Hac Vice Admission of Brian P. Biddinger</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 1360918, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Mar. 25, 2015	Administrative Filing		—
Discussed by	<b>49. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 129163, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Jan. 09, 2015	Administrative Filing		—
Discussed by	<b>50. Patent Owner's Opposition to Motion for Joinder to Related Inter Partes Review of U.S. Patent No. 8,023,580 (IPR2014-00519)</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 6474779, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Nov. 08, 2014	Administrative Filing		—
Discussed by	<b>51. Patent Owner's Opposition to Motion for Joinder to Related Inter Partes Review of U.S. Patent No. 8,023,580 (IPR2014-00518)</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 6474791, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Nov. 08, 2014	Administrative Filing		—
Discussed by	<b>52. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petiti... 2014 WL 2525754, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	June 04, 2014	Administrative Filing		—
Discussed by	<b>53. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petiti... 2014 WL 2528319, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	June 04, 2014	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Discussed by	<b>54. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 2528320, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	June 04, 2014	Administrative Filing		—
Discussed by	<b>55. Federal Jury Awards Technology Company \$15.7M in Patent Infringement Suit</b> 2015 WL 3485582, *1+ , E.D.Tex. (Verdict and Settlement Summary)	Feb. 13, 2015	Jury Verdict		—
Discussed by	<b>56. REMBRANDT WIRELESS TECHNOLOGIES LP vs. SAMSUNG ELECTRONICS CO. LTD. ET AL</b> 2015 WL 1298643, *1+ , E.D.Tex. (Verdict and Settlement Summary)	Jan. 13, 2015	Jury Verdict		—
Discussed by	<b>57. REMBRANDT WIRELESS TECHNOLOGIES LP vs. SAMSUNG ELECTRONICS CO. LTD. ET AL</b> 2015 WL 1298639, *1+ , E.D.Tex. (Verdict and Settlement Summary)	Jan. 13, 2015	Jury Verdict		—
Discussed by	<b>58. Motion for Summary Judgment</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, v. SAMSUNG ELECTRONICS CO. LTD., et al. 2014 WL 7794895, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Sep. 15, 2014	Motion		—
Discussed by	<b>59. Rembrandt Wireless Technologies LP's Response to Samsung's Motion to Stay Pending Inter Partes Review</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2014 WL 12487725, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	July 07, 2014	Motion		—
Discussed by	<b>60. Samsung's Opposed Motion to Stay Pending Inter Partes Review</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., Samsung Telecommunications Americ... 2014 WL 12487729, *1+ , E.D.Tex. (Trial Motion, Memorandum and Affidavit)	June 18, 2014	Motion		—
Discussed by	<b>61. Judge's Instructions/Charge to the Jury</b> <small>Out Of File</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, LLC; Samsung Telecommunications America,... 2015 WL 4935322, *1+ , E.D.Tex. (Trial Transcript)	Feb. 13, 2015	Transcript		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Discussed by	<b>62. Verdict Form</b> <small>Out Of Plan</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD.; Samsung Electronics America, Inc.; and Samsung Telecommunications Am... 2015 WL 1280541, *1+ , E.D.Tex. (Verdict, Agreement and Settlement)	Feb. 13, 2015	Jury Verdict		—
Discussed by	<b>63. Verdict Form</b> <small>Out Of Plan</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD.; Samsung Electronics America, Inc.; and Samsung Telecommunications Am... 2015 WL 10319202, *1+ , E.D.Tex. (Verdict, Agreement and Settlement)	Feb. 13, 2015	Jury Verdict		—
Cited by	<b>64. Rembrandt Wireless Technologies, LP v. Samsung Electronics Co., Ltd.</b> 2016 WL 362540, *1+ , E.D.Tex.  Before the Court is Samsung Defendants' ("Samsung") Rule 50(b) Renewed Motion for Judgment as a Matter of Law and/or Rule 59(a) Motion for New Trial on Damages Issues ("Mot.", Dkt...	Jan. 29, 2016	Case		—
Cited by	<b>65. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2015 WL 5719795, *6 , Patent Tr. & App. Bd.  Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner") filed...	Sep. 24, 2015	Administrative Decision		—
Cited by	<b>66. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2015 WL 5719796, *6 , Patent Tr. & App. Bd.  Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner") filed...	Sep. 24, 2015	Administrative Decision		—
Cited by	<b>67. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2015 WL 5719797, *6 , Patent Tr. & App. Bd.  Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (collectively, "Petitioner") filed...	Sep. 24, 2015	Administrative Decision		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Cited by	<p><b>68. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2014 WL 5840662, *1 , Patent Tr. &amp; App. Bd.</p> <p>Petitioner filed a Request for Rehearing (Paper 19, "Req. Reh'g'D') of the Board's decision entered September 9, 2014 (Paper 18, "Decision"), which declined to institute inter...</p>	Oct. 24, 2014	Administrative Decision		—
Cited by	<p><b>69. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC, PETITIONER, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, PATENT OWNER.</b> 2014 WL 5840663, *1 , Patent Tr. &amp; App. Bd.</p> <p>On October 8, 2014, Petitioner filed a request for rehearing (Paper 19, "Req. Reh'g'D') of the Board's decision (Paper 18, "Dec."), which declined to institute an inter partes...</p>	Oct. 24, 2014	Administrative Decision		—
Cited by	<p><b>70. Record of Oral Hearing</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC, Petit... 2015 WL 5444442, *1+ , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Sep. 16, 2015	Administrative Filing		—
Cited by	<p><b>71. Petitioners' Request for Oral Hearing</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 1265497, *1 , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Mar. 20, 2015	Administrative Filing		—
Cited by	<p><b>72. Petitioners' Request for Oral Hearing</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 1265501, *1 , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Mar. 20, 2015	Administrative Filing		—
Cited by	<p><b>73. Patent Owner's Opposition to Motion for Joinder to Inter Partes Review of U.S. Patent No. 8,457,22 (IPR2014-00892)</b> <small>Out Of File</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 638749, *1+ , Patent Tr. &amp; App. Bd. (Administrative Filing)</p>	Feb. 16, 2015	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Cited by	<b>74. Motion for Joinder to Related Inter Partes Review of U.S. Patent No. 8,457,228 (Case No. IPR2014-00892) Under 37 C.F.R. s 42.122(b)</b> <small>Out Of Phase</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; and Samsung Austin Semiconductor, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES... 2015 WL 129162, *1+ , Patent Tr. & App. Bd. (Administrative Filing)	Jan. 09, 2015	Administrative Filing		—
Cited by	<b>75. Decision on Request for Rehearing 37 C.F.R. s 42.71</b> <small>Out Of Phase</small> SAMSUNG ELECTRONICS CO. LTD., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 6779165, *1 , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 24, 2014	Administrative Filing		—
Cited by	<b>76. Decision Request for Rehearing 37 C.F.R. s 42.71(d)</b> <small>Out Of Phase</small> SAMSUNG ELECTRONICS CO. LTD., Samsung Electronics America, Inc., Samsung Telecommunicationsamerica, LLC, and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 6779166, *1 , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 24, 2014	Administrative Filing		—
Cited by	<b>77. Order Conduct of Proceedings 37 C.F.R. s 42.5</b> <small>Out Of Phase</small> SAMSUNG ELECTRONICS CO. LTD., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 5324793, *1 , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 20, 2014	Administrative Filing		—
Cited by	<b>78. Order Conduct of Proceedings 37 C.F.R. s 42.5</b> <small>Out Of Phase</small> SAMSUNG ELECTRONICS CO. LTD., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 5324794, *1 , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 20, 2014	Administrative Filing		—
Cited by	<b>79. Petitioners' Request for Rehearing Under 37 C.F.R. s 42.71 on the Decision Not to Institute Inter Partes Review</b> <small>Out Of Phase</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petiti... 2014 WL 5025201, *1 , Patent Tr. & App. Bd. (Administrative Filing)	Oct. 08, 2014	Administrative Filing		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Cited by	<b>80. Petitioners' Request for Rehearing Under 37 C.F.R. s 42.71 on the Decision Not to Institute Inter Partes Review</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC, Petit... 2014 WL 5025202, *1, Patent Tr. & App. Bd. (Administrative Filing)	Oct. 08, 2014	Administrative Filing		—
Cited by	<b>81. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 2525753, *1+, Patent Tr. & App. Bd. (Administrative Filing)	June 04, 2014	Administrative Filing		—
Cited by	<b>82. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 2525755, *1+, Patent Tr. & App. Bd. (Administrative Filing)	June 04, 2014	Administrative Filing		—
Cited by	<b>83. Petition for Inter Partes Review of U.S. Patent No. 8,457,228</b> <small>Out Of Place</small> SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America, LLC; and Samsung Austin Semiconductor, LLC; Petit... 2014 WL 2528321, *1+, Patent Tr. & App. Bd. (Administrative Filing)	June 04, 2014	Administrative Filing		—
Cited by	<b>84. Non-Confidential Reply Brief of Defendants-Appellants</b> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff-Appellee, v. SAMSUNG ELECTRONICS CO., LTD., Samsung Electronics America, Inc., and Samsung Telecommunic... 2016 WL 4491434, *1+, Fed.Cir. (Appellate Brief)	Aug. 15, 2016	Brief		—
Cited by	<b>85. Samsung's Reply in Support of Its Motion for Extension of Stay Pending Appeal</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., Ltd.; Samsung Electronics America, Inc.; Samsung Telecommunications Americ... 2016 WL 4362480, *1, E.D.Tex. (Trial Motion, Memorandum and Affidavit)	May 09, 2016	Motion		—
Cited by	<b>86. Samsung's Motion for Extension of Stay Pending Appeal</b> <small>Out Of Place</small> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO., Ltd.; Samsung Electronics America, Inc.; Samsung Telecommunications Americ... 2016 WL 4362460, *1, E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Apr. 11, 2016	Motion		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Cited by	<b>87. Rembrandt's Sur-Reply in Opposition to Defendants' Motion for Summary Judgment of No Damages Prior to the Filing Date of the Complaint for Failure to ...</b> <a href="#">Out Of Place</a> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2015 WL 11519745, *1+, E.D.Tex. (Trial Motion, Memorandum and Affidavit)	Jan. 07, 2015	Motion		—
Cited by	<b>88. P.R. 4-3 Joint Claim Construction Statement</b> <a href="#">Out Of Place</a> REMBRANDT WIRELESS TECHNOLOGIES, LP, Plaintiff, v. SAMSUNG ELECTRONICS CO. LTD.; Samsung Electronics America, Inc.; Samsung Telecommunications America... 2014 WL 4408296, *1, E.D.Tex. (Trial Filing)	Mar. 06, 2014	Filing		—
—	<b>89. SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS</b> <a href="#">Out Of Place</a> US PAT 8457228+, U.S. PTO Utility  A device may be capable of communicating using at least two type types of modulation methods. Methods and systems are provided for communication of data according to a...	June 04, 2013	Patents	—	—
—	<b>90. DATA COMMUNICATION SYSTEM HAS TRANSCEIVER THAT TRANSMITS INITIAL SEQUENCE IN FREQUENCY SHIFT KEYING MODULATION INDICATING IMPENDING CHANGE FROM FREQUENCY SHIFT KEYING MODULATION TO SHIFT KEYING MODULATION</b> <a href="#">Out Of Place</a> DWPI 2010-J46317	Dec. 05, 1997	DWPI	—	—
—	<b>91. MULTIPOINT SYSTEM FOR FACILITATING DATA COMMUNICATIONS AMONG MODEMS IN POINT-TO-POINT NETWORK, HAS MASTER TRANSCEIVER TRANSMITTING TRAILING SEQUENCE IN ONE OF MODULATION METHODS E.G. SHIFT KEYING MODULATION METHOD, AFTER TRAINING SEQUENCE</b> <a href="#">Out Of Place</a> DWPI 2012-F08686+	Dec. 05, 1997	DWPI	—	—
—	<b>92. MULTIPOINT COMMUNICATION SYSTEM, HAS TRANSCEIVER TRANSMITTING TRAINING SEQUENCE IN MODULATION PROCESS, WHERE SEQUENCE INDICATES IMPENDING CHANGE FROM ONE PROCESS TO ANOTHER PROCESS AND TRAILING SEQUENCE TRANSMITTED AFTER TRAINING SEQUENCE</b> <a href="#">Out Of Place</a> DWPI 2014-K80666	Dec. 05, 1997	DWPI	—	—

Treatment	Title	Date	Type	Depth	Headnote(s)
—	<b>93. MULTIPOINT COMMUNICATION SYSTEM FOR FACILITATING COMMUNICATION AMONG E.G. TRIBUTARY OR TRIB MODEMS IN NETWORK TO PROVIDE PHONE SERVICE, HAS SIMPLE CABLE PHONE AND INTERACT DEVICE FOR SENDING SIGNAL TO TERMINATION SYSTEM AND HEAD ENDS</b> <small>Out Of Place</small> DWPI 2015-194092+	Dec. 05, 1997	DWPI	—	—
—	<b>94. RF 027085/0636</b> <small>Out Of Place</small>	Oct. 19, 2011	Assignments	—	—
—	<b>95. PatStat 8023580</b>	Dec. 23, 2014	Patent Status Files	—	—
—	<b>96. PatStat 8023580</b>	Dec. 23, 2014	Patent Status Files	—	—
—	<b>97. PatStat 8023580</b>	May 20, 2014	Patent Status Files	—	—
—	<b>98. PatStat 8023580</b>	May 20, 2014	Patent Status Files	—	—
—	<b>99. PatStat 8023580</b>	May 20, 2014	Patent Status Files	—	—
—	<b>100. PatStat 8023580</b>	May 20, 2014	Patent Status Files	—	—
—	<b>101. REMBRANDT WIRELESS TECHNOLOGIES, LP v. SAMSUNG ELECTRONICS CO. LTD</b>	Mar. 15, 2013	Docket Summaries	—	—
—	<b>102. SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS</b> <small>Out Of Place</small> US PAT 9432172+ , U.S. PTO Utility  Methods and systems are provided for simple cable phone and internet (SCPI) device that may be coupled with a cable modem (CM) and one or more SCPI head ends, e.g., via an SCPI..	Aug. 30, 2016	Patents	—	—
—	<b>103. SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS</b> <small>Out Of Place</small> US PAT APP 20150078425+ , U.S. PTO Application  Methods and systems are provided for simple cable phone and internet (SCPI) device that may be coupled with a cable modem (CM) and one or more SCPI head ends, e.g., via an SCPI..	Mar. 19, 2015	Patents	—	—
—	<b>104. SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS</b> <small>Out Of Place</small> US PAT APP 20140153621 , U.S. PTO Application  A device may be capable of communicating using at least two type types of modulation methods. Methods and systems are provided for communication of data according to a...	June 05, 2014	Patents	—	—



Treatment	Title	Date	Type	Depth	Headnote(s)
—	<b>105. SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS</b> <small>Out Of Page</small> US PAT APP 20120106604 , U.S. PTO Application  A device may be capable of communicating using at least two type types of modulation methods. The device may include a transceiver capable of acting as a master according to a...	May 03, 2012	Patents	—	—
—	<b>106. Annotated Patent Digest (Matthews) s 30:149, No requirement to mark if no product made by patent holder</b>  If the patent holder or its licensees have not made any products under the patent, then there is nothing to mark, and there is no duty on the patent holder to provide any notice to...	2016	Other Secondary Source	—	—
—	<b>107. Annotated Patent Digest (Matthews) s 30:151, Only need mark patented article that is the subject of infringement suit</b>  The duty to mark only extends to the patented article that is the subject of an infringement suit. If a single patent has different claims directed to different articles, the...	2016	Other Secondary Source	—	—
—	<b>108. PATENT-E.D. TEX.: SAMSUNG LOSES BID FOR POST-TRIAL JUDGMENT OF NON-INFRINGEMENT OF REMBRANDT PATENTS</b> <small>Out Of Page</small>  Samsung was not entitled to a post-trial judgment of non-infringement of two Rembrandt Wireless patents, both of which described a wireless communications system that used multiple...	2016	Other Secondary Source	—	—
—	<b>109. PATENT-E.D. TEX.: SAMSUNG'S EFFORT TO REDUCE \$15.7M AWARD FAILS IN BLUETOOTH INFRINGEMENT CASE</b> <small>Out Of Page</small>  Samsung was not entitled to a post-trial judgment to set aside a \$15.7 million damages award that a jury delivered after finding that Samsung had infringed two Rembrandt Wireless...	2016	Other Secondary Source	—	—
—	<b>110. WORTH NOTING-OTHER IP LAW DEVELOPMENTS</b> <small>Out Of Page</small>  A periodic roundup of other items of interest to the Intellectual Property community: PATENT—E.D. Tex.: A federal jury in Marshall, Texas, has determined that Samsung must pay...	2015	Other Secondary Source	—	—

1. 9432172, August 30, 2016, System and method of communication using at least two modulation methods, Bremer, Gordon, Clearwater, Florida, United States of America(US); Schneck, Paul, Bala Cynwyd, Pennsylvania, United States of America(US); 549064, January 21, 2015, ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., REMBRANDT WIRELESS TECHNOLOGIES, LP, SUITE 700, 1655 NORTH FORT MEYERS DRIVE, ARLINGTON, VIRGINIA, UNITED STATES OF AMERICA(US), 22209, reel-frame:034777/0907, REMBRANDT WIRELESS TECHNOLOGIES, LP, Arlington, Virginia, United States of America(US), United States company or corporation

**CORE TERMS:** trib, modulation, cable, sequence, master, transceiver, modem, upstream, phone, customer, training, gateway, burst, session, transmission, multipoint, trailing, internet, communicate, interface, modulated, communications system, cable service, channel, transmitted, sub-system, downstream, digital, coupled, network

... 8457228 , which is a Continuation of Ser. No. 12543910, August 19, 2009, GRANTED **8023580** , which is a Continuation of Ser. No. 11774803, July 9, 2007, GRANTED 7675965 , which is ...  
 ... 7747000, June 29, 2010, Bremer et al., United States of America (US) **8023580**, September 20, 2011, Bremer, United States of America (US) 8457228, June 4, ...  
 ... 543,910 filed on Aug. 19, 2009, which issued as U.S. Pat. No. **8,023,580** on Sep. 20, 2011, which is a continuation of U.S. application Ser. No. 11/ ...

2. 8457228, June 4, 2013, System and method of communication using at least two modulation methods, Bremer, Gordon F., Clearwater, Florida, United States of America(US), United States of America(); 198568, October 19, 2011, ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., REMBRANDT WIRELESS TECHNOLOGIES, LP, SUITE 700, 1655 NORTH FORT MEYERS DRIVE, ARLINGTON, VIRGINIA, UNITED STATES OF AMERICA(US), 22209, reel-frame:027085/0636, Bremer, Gordon F., Clearwater, Florida, United States of America(US), United States of America

**CORE TERMS:** modulation, trib, transceiver, master, sequence, modem, training, message, session, trailing, transmission, multipoint, communicate, medium, transmitted, memory, slave, communications system, modulated, user, methods used, transition, magnetic, optical, computer-readable, incompatible, demodulator, compatible, modulator, internet

Continuation of Ser. No. 12543910, August 19, 2009, GRANTED **8023580** , which is a Continuation of Ser. No. 11774803, July 9, 2007, GRANTED 7675965 , which is ...  
 ... 7747000, June 29, 2010, Bremer et al., United States of America (US) **8023580**, September 20, 2011, Bremer, United States of America (US), 375#261 20010022836, September ...

3. 8023580, September 20, 2011, System and method of communication using at least two modulation methods, Bremer, Gordon F., Clearwater, Florida, United States of America(US), United States of America(); 543910, BREMER GORDON F, October 19, 2011, ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., REMBRANDT WIRELESS TECHNOLOGIES, LP, SUITE 700, 1655 NORTH FORT MEYERS DRIVE, ARLINGTON, VIRGINIA, UNITED STATES OF AMERICA(US), 22209, reel-frame:027085/0636

**CORE TERMS:** modulation, trib, sequence, master, transceiver, modem, transmission, training, session, trailing, multipoint, communicate, medium, memory, communications system, transmitted, method used, payload, slave, transition, magnetic, optical, computer-readable, incompatible, destination, demodulator, compatible, modulated, modulator, interval

**8023580**

4. 20150078425 (Note: This is a Patent Application only.), March 19, 2015, SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS, Bremer, Gordon, Clearwater, Florida, United States of America(US); Schneck, Paul, Bala Cynwyd, Pennsylvania, United States of America(US); 549064, January 21, 2015, ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., REMBRANDT WIRELESS TECHNOLOGIES, LP, SUITE 700, 1655 NORTH FORT MEYERS DRIVE, ARLINGTON, VIRGINIA, UNITED STATES OF AMERICA(US), 22209, reel-frame:034777/0907, REMBRANDT WIRELESS TECHNOLOGIES, LP, Arlington, Virginia, United States of America(US), United

States company or corporation

**CORE TERMS:** trib, modulation, cable, sequence, master, transceiver, modem, upstream, phone, customer, training, gateway, burst, session, transmission, multipoint, internet, trailing, communicate, interface, modulated, communications system, cable service, channel, transmitted, sub-system, downstream, digital, coupled, network

... 8457228 , which is a Continuation of Ser. No. 12543910, August 19, 2009, GRANTED **8023580** , which is a Continuation of Ser. No. 11774803, July 9, 2007, GRANTED 7675965 , which is ...  
... 543,910 filed on Aug. 19, 2009, which issued as U.S. Pat. No. **8,023,580** on Sep. 20, 2011, which is a continuation of U.S. application Ser. No. 11/ ...

- 5. 20140153621 (Note: This is a Patent Application only.), June 5, 2014, SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS, Bremer, Gordon, Clearwater, Florida, United States of America(US); 899227, Summit Technology Systems, LP, Bala Cynwyd, Pennsylvania, United States of America(US), United States company or corporation

**CORE TERMS:** modulation, trib, transceiver, master, sequence, modem, training, message, session, trailing, transmission, multipoint, communicate, medium, transmitted, memory, slave, communications system, modulated, user, methods used, transition, magnetic, optical, computer-readable, continuation, incompatible, demodulator, compatible, modulator

... 8457228 , which is a Continuation of Ser. No. 12543910, August 19, 2009, GRANTED **8023580** , which is a Continuation of Ser. No. 11774803, July 9, 2007, GRANTED 7675965 , which is ...

- 6. 20120106604 (Note: This is a Patent Application only.), May 3, 2012, System and Method of Communication Using at Least Two Modulation Methods, Bremer, Gordon F., Clearwater, Florida, United States of America(US), United States of America(); 198568, October 19, 2011, ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., REMBRANDT WIRELESS TECHNOLOGIES, LP, SUITE 700, 1655 NORTH FORT MEYERS DRIVE, ARLINGTON, VIRGINIA, UNITED STATES OF AMERICA(US), 22209, reel-frame:027085/0636, SUMMIT TECHNOLOGY SYSTEMS, LP, Bala Cynwyd, Pennsylvania, United States of America(US), United States company or corporation

**CORE TERMS:** modulation, trib, sequence, master, transceiver, modem, training, transmission, session, trailing, multipoint, communicate, medium, memory, communications system, transmitted, method used, payload, slave, transition, magnetic, optical, computer-readable, incompatible, destination, demodulator, compatible, modulated, modulator, interval

Continuation of Ser. No. 12543910, August 19, 2009, GRANTED **8023580** , which is a Continuation of Ser. No. 11774803, July 9, 2007, GRANTED 7675965 , which is ...  
**8023580**, September 20, 2011, BREMER GORDON F [US], United States of ...

Source: [Legal > / ... / > Utility, Design and Plant Patents](#) 

Terms: **8023580** or **8,023,580** (Suggest Terms for My Search)

View: Cite

Date/Time: Monday, September 19, 2016 - 10:50 AM EDT

1. Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., CASE NO. 2:13-cv-213-JRG, UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION, 2016 U.S. Dist. LEXIS 18797, February 17, 2016, Decided, February 17, 2016, Filed

**CORE TERMS:** modulation, patent, matter of law, new trial, different types, prior art, they're, infringement, protocol, dropped ...

... February 13, 2015. The asserted claims of U.S. Patent No. **8,023,580** ("580 Patent") and U.S. Patent No. 8,457,228 ("228 Patent"), the ...

2. Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd., CASE NO. 2:13-cv-213-JRG, UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION, 2016 U.S. Dist. LEXIS 10590, January 29, 2016, Decided, January 29, 2016, Filed

**CORE TERMS:** chip, new trial, royalty, patented, matter of law, patent, functionality, incremental, technology, patents-in-suit ...

... February 13, 2015. The asserted claims of U.S. Patent No. **8,023,580** ("the '580 Patent") and U.S. Patent No. 8,457,228 ("the '228 Patent") ...

3. Rembrandt Wireless Techs. v. Samsung Elecs. Co., Case No. 2:13CV213-JRG-RSP, UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION, 2015 U.S. Dist. LEXIS 19902, February 9, 2015, Decided, February 9, 2015, Filed

... products covered by claim 40 of United States Patent No. **8,023,580** ("the '580 Patent") due to Plaintiff's disclaimer of this claim. ...

4. Rembrandt Wireless Techs. v. Samsung Elecs. Co., Case No. 2:13CV213-JRG-RSP, UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION, 2015 U.S. Dist. LEXIS 19900, February 5, 2015, Decided, February 5, 2015, Filed, Adopted by, Objection overruled by, Summary judgment denied by Rembrandt Wireless Techs. v. Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 19902 (E.D. Tex., Feb. 9, 2015)

**CORE TERMS:** marking, summary judgment, patentee, patent, material fact, remaining claims, claim-by-claim, notice, genuine issue, infringement ...

... is the assignee and owner of United States Patent No. **8,023,580** ("the '580 Patent"). (Dkt. No. 84 at ¶ 2, "Third Amended ...

5. Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Case No. 2:13CV213-JRG-RSP, UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION, 2015 U.S. Dist. LEXIS 20303, January 29, 2015, Decided, January 29, 2015, Filed

**CORE TERMS:** non-instituted, inter partes, patent, trial date, disadvantage, tactical, weigh, patents-in-suit, simplification, infringement ...

... is the assignee and owner of United States Patent No. **8,023,580** ("the '580 Patent") and United States Patent No. 8,457,228 ("the '228 Patent") ...

6. Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., CASE NO. 2:13-CV-213-JRG-RSP, UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION, 2014 U.S. Dist. LEXIS 93645, July 10, 2014, Decided, July 10, 2014, Filed, Motion denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 54755 (E.D. Tex., Jan. 23, 2015) Stay denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 20303 (E.D. Tex., Jan. 29, 2015) Motion denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 20305 (E.D. Tex., Jan. 29, 2015) Motion denied by, Motion granted by Rembrandt Wireless Techs., LP v.

Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 20306 (E.D. Tex., Jan. 30, 2015)Magistrate's recommendation at Rembrandt Wireless Techs. v. Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 19900 (E.D. Tex., Feb. 5, 2015)Objection overruled by, Motion denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co. Ltd., 2015 U.S. Dist. LEXIS 14193 (E.D. Tex., Feb. 6, 2015)Motion denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., 2015 U.S. Dist. LEXIS 19904 (E.D. Tex., Feb. 9, 2015)Motion denied by, Motion for new trial denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd., 2016 U.S. Dist. LEXIS 10590 (E.D. Tex., Jan. 29, 2016)Motion denied by, Motion for new trial denied by Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., 2016 U.S. Dist. LEXIS 18797 (E.D. Tex., Feb. 17, 2016)

**CORE TERMS:** modulation, signal, sequence, trib, transmission, transceiver, specification, training, invention, patentee ...

... of the disputed claim terms in United States Patents No. **8,023,580** and 8,457,228. After considering the arguments made by the parties ...

... Plaintiff brings suit alleging infringement of United States Patents No. **8,023,580** ("the '580 Patent") and 8,457,228 ("the '228 Patent") (collectively, the " ...

... 2014 Petition for Inter Partes Review of U.S. Patent No. **8,023,580** at 9 (citing The IEEE Standard Dictionary of Electrical and ...

... 2014 Petition for Inter Partes Review of U.S. Patent No. **8,023,580** at 11. ...

7. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, and SAMSUNG AUSTIN SEMICONDUCTOR, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, Patent Owner., Case IPR2014-00892, Paper 46 Patent 8,457,228 B2, Patent Trial and Appeal Board Representative Orders, Decisions and Notices, 2015 Pat. App. LEXIS 12959, September 24, 2015, Decided

**CORE TERMS:** modulation, slave, phase, wave, carrier, amplitude, protocol, transceiver, modem, frequency ...

... argument in related case IPR2014-00518, which concerns U.S. Patent No. **8,023,580** B2 (which issued from the parent application (12/543,910) of the '228 patent):JUDGE LEE: ...

8. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, and SAMSUNG AUSTIN SEMICONDUCTOR, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, Patent Owner., Case IPR2014-00893, Paper 44 Patent 8,457,228 B2, Patent Trial and Appeal Board Representative Orders, Decisions and Notices, 2015 Pat. App. LEXIS 12960, September 24, 2015, Decided

**CORE TERMS:** modulation, phase, wave, carrier, amplitude, slave, protocol, modem, payload, frequency ...

... argument in related case IPR2014-00518, which concerns U.S. Patent No. **8,023,580** B2 (which issued from the parent application (12/543,910) of the '228 patent):JUDGE LEE: ...

9. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, and SAMSUNG AUSTIN SEMICONDUCTOR, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, Patent Owner., Case IPR2014-00895, Paper 44 Patent 8,457,228 B2, Patent Trial and Appeal Board Representative Orders, Decisions and Notices, 2015 Pat. App. LEXIS 12961, September 24, 2015, Decided

**CORE TERMS:** modulation, phase, transmission, sequence, wave, carrier, signal, slave, amplitude, protocol ...

... argument in related case IPR2014-00518, which concerns U.S. Patent No. **8,023,580** B2 (which issued from the parent application (12/543,910) of the '228 patent):JUDGE LEE: ...


10. SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG

TELECOMMUNICATIONSAMERICA, LLC, and SAMSUNG AUSTIN SEMICONDUCTOR, LLC, Petitioner, v. REMBRANDT WIRELESS TECHNOLOGIES, LP, Patent Owner., Case IPR2014-00518, Paper 47 Patent 8,023,580 B2, Patent Trial and Appeal Board Representative Orders, Decisions and Notices, 2015 Pat. App. LEXIS 12892, September 17, 2015, Decided

**CORE TERMS:** modulation, phase, carrier, wave, slave, amplitude, protocol, modem, frequency, sequence ...

... 59, 61, 62, 66, 70, and 76-79 of U.S. Patent No. **8,023,580** B2 ("the '580 patent," Ex. 1201) under 35 U.S.C. §§ 311-319 ...

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Terms: **8023580** or **8,023,580** (Suggest Terms for My Search)

View: [Cite](#)

Date/Time: Monday, September 19, 2016 - 10:51 AM EDT

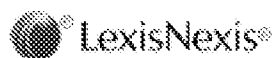
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\* Signal Legend:

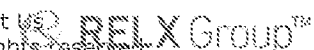
-  - Warning: Negative treatment is indicated
-  - Questioned: Validity questioned by citing refs
-  - Caution: Possible negative treatment
-  - Positive treatment is indicated
-  - Citing Refs. With Analysis Available
-  - Citation Information available

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**No Documents Found**

No documents were found for your search terms  
"8023580 or 8,023,580"

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Suggestions:

- Check for spelling errors.
- Remove some search terms.
- Use more common search terms, such as those listed in "Suggested Words and Concepts."
- Use a less restrictive date range.
- Use "OR" in between terms to search for one term or the other.

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1. US Official News, March 3, 2015 Tuesday, 401 words, Ward & Smith Helps Rembrandt Technologies Win \$15.7 Million Patent Verdict, New York  
 ... 2013 based on the infringement of two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. Rembrandt claimed Samsung was using both patents without permission to enable the ...
2. US Official News, March 3, 2015 Tuesday, 401 words, Ward & Smith Helps Rembrandt Technologies Win \$15.7 Million Patent Verdict, New York  
 ... 2013 based on the infringement of two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. Rembrandt claimed Samsung was using both patents without permission to enable the ...
3. Professional Services Close-Up, February 28, 2015 Saturday, 281 words, Ward & Smith Helps Rembrandt Technologies Get \$15.7M Patent Infringement Verdict  
 ... 2013 based on the infringement of two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. Rembrandt claimed Samsung was using both patents without permission to enable the ...
4. Manufacturing Close-Up, February 26, 2015 Thursday, 281 words, Ward & Smith Helps Rembrandt Technologies Win \$15.7M Patent Infringement Verdict  
 ... 2013 based on the infringement of two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. Rembrandt claimed Samsung was using both patents without permission to enable the ...
5. PR Newswire, February 23, 2015 Monday 2:35 PM EST, , 406 words, Ward & Smith Helps Rembrandt Technologies Win \$15.7 Million Patent Verdict; Texas jury issues multimillion-dollar decision against Samsung over Bluetooth patents, MARSHALL, Texas, Feb. 23, 2015  
 ... 2013 based on the infringement of two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. Rembrandt claimed Samsung was using both patents without permission to enable the ...
6. Legal Monitor Worldwide, February 17, 2015 Tuesday, 294 words, Rembrandt Technologies Wins \$15.7 Million Jury Verdict in Patent Infringement Case Against Samsung  
 ... day trial focused on two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. In addition to the \$15.7 million award, Rembrandt also will receive ...
7. Legal Monitor Worldwide, February 17, 2015 Tuesday, 294 words, Rembrandt Technologies Wins \$15.7 Million Jury Verdict in Patent Infringement Case Against Samsung  
 ... day trial focused on two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. In addition to the \$15.7 million award, Rembrandt also will receive ...
8. PR Newswire, February 16, 2015 Monday 4:34 PM EST, , 487 words, Rembrandt Technologies Wins \$15.7 Million Jury Verdict in Patent Infringement Case Against Samsung; Royalties to be paid for life of infringed patents, MARSHALL, Texas, Feb. 16, 2015  
 ... day trial focused on two Rembrandt patents, U.S. Patent Nos. **8,023,580** and 8,457,228. In addition to the \$15.7 million award, Rembrandt also will receive ...
9. Targeted News Service, September 22, 2011 Thursday 2:03 PM EST, , 4148 words, U.S. Patents Awarded to Inventors in Florida (Sept. 22), Targeted News Service Targeted News Service, Alexandria, VA.  
 ... Sept. 22 -- Gordon F. Bremer, Clearwater, Fla., has developed a patent (**8,023,580**) for "system and method of communication using at least two modulation methods." The ...  
 ... r=1&f=G&l=50&co1=AND&d=PTXT&s1=**8,023,580**.PN.&OS=PN/**8,023,580**&RS=PN/**8,023,580**  
 Written by Anjali Jha; edited by Jaya Anand. \*\*\* Tellabs Vienna ...
10. London Stock Exchange Aggregated Regulatory News Service (ARNS), May 26, 2011 Thursday 8:41 AM GMT, , 42 words, PS Clean En Fd Net Asset Value(s)



... Powershares 25.05.2011 PSBW 1E00B23D9133 1,700,001 EUR 8,023,580 4.71975 ...

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Source: [News & Business > Combined Sources > All English Language News](#) 

Terms: **8023580** or **8,023,580** (Suggest Terms for My Search)

View: Cite

Date/Time: Monday, September 19, 2016 - 10:52 AM EDT

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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, MAIL DATE, DELIVERY MODE. Includes application details for 90/013,808 and examiner GE, YUZHEN.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

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***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,808.

PATENT NO. 8023580.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Yuzhen Ge

Primary Examiner

Art Unit: 3992

**ORDER GRANTING REQUEST FOR EX PARTE REEXAMINATION –  
CONTINUED**

**I. ACKNOWLEDGMENTS**

On Sep. 12, 2016, a third-party requester (“**Requester**”) filed a request (“**Request**”) for  
5 *ex parte* reexamination of claims 2 and 59 of US Patent 8,023,580 (“**580 patent**”) which issued  
to Bremer. The 580 patent was filed on Aug. 19, 2009 with application number 12/543,910  
 (“**910 application**”) and issued on Sep. 20, 2011.

Based upon Examiner’s review of the 580 patent itself and its prosecution history, the  
Examiner finds that there are no prior or concurrent *ex parte* or supplemental reexaminations for  
10 the `580 patent.

**II. INFORMATION DISCLOSURE STATEMENT**

An information disclosure statement was submitted by the Requester on Sep. 12, 2016  
(Sep 2016 IDS). The Sep 2016 IDS is in compliance with the provisions of 37 C.F.R. § 1.97.  
15 Accordingly, the Sep 2016 IDS has been considered by the Examiner.

**III. PRIORITY CLAIMS**

Based upon a review of the 580 Patent, the Examiner finds that the 580 patent is a  
continuation of US Patent Application 11/774,803, filed on Jul. 9, 2007, now patent US  
20 7,675,965, which is continuation of US Patent Application 10/412,878, filed on Apr. 14, 2003,  
now patent US 7,248,626, which is continuation-in-part of application 09/205,205, filed on Dec.

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4, 1998, now patent US 6,614,838. The application 09/205,205 also claims priority to US provisional application 60/067,562 filed on Dec. 5, 1997. The 580 patent does not claim any foreign priority.

Because the effective filing date of the 580 patent is not on or after March 16, 2013, the AIA First Inventor to File (“AIA-FITF”) provisions do not apply. Instead, the earlier ‘First to Invent’ provisions apply.

#### IV. PRIOR ART

##### A. References cited herein

- 10 i. U.S. Patent No. 5,982,807, filed on Mar. 17, 1997 and issued on Nov. 9, 1999, to Snell, J. (“Snell”).
- ii. U.S. Patent No. 6,075,814, filed on May 9, 1997 and issued on Jun. 13, 2000, to Yamano, L., et al. (“Yamano”).
- iii. Andren, C. et al., “Using the PRISM™ Chip Set for Low Data Rate  
15 Applications,” Harris Semiconductor Application Note No. AN9614, March 1996 (“Harris AN9614”).
- iv. “HSP3824 Direct Sequence Spread Spectrum Baseband Processor,” Harris Semiconductor File No. 4064.4, Oct. 1996 (“Harris 4064.4”).
- v. Kamerman, A., “Throughput Density Constraints for Wireless LANs  
20 Based on DSSS,” IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3 (“Kamerman”).

vi. Upende et al., "Communication Protocols for Embedded Systems,"  
Embedded Systems Programming, Vol. 7, Issue 11, November 1994. - ("Upende").

## **B. Availability of references as prior art**

References, i and ii, i.e., Snell and Yamano, filed before the priority dates of claims 2 and  
5 59 of the 580 patent, therefore qualify as prior art under 35 U.S.C. 102(e). References iii and iv,  
i.e., Harris AN9614 and Harries 4064.4, are incorporated by reference by Snell (col. 5, lines 2-7  
and 11-17) and therefore are prior art under at least 35 U.S.C. 102(e) as Snell. References v-vi,  
i.e., Kamerman and Upende, have publication dates before the priority date of claims 2 and 59  
of the 580 patent and therefore qualify as prior art under 35 U.S.C. 102(a).

10 None of the references i-v, i.e., Snell, Yamano, Harries 4064.4, Harris AN9614 and  
Kamerman, appears to have been considered or applied during prosecutions of the 580 patent, its  
parent applications and during inter partes reviews of the 580 patent. Upende was before the  
Office during prior IPR proceedings.

Because Snell was not cited or before the Office during prior prosecutions of the 580  
15 patent and related patents and during prior inter partes review of the 580 patent, Snell in  
combination with other references are not before the Office prior to the instant reexamination.  
Accordingly, Snell in combination with other references can be used to raise a substantially new  
question of patentability in this *ex parte* reexamination proceeding.

## **V. PROSECUTION HISTORY**

### 1. Prosecution history of the 580 patent

(Request, pp. 9-11)

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Based upon the Examiner's independent review of the file history of the 580 patent and the Requester's description of the prosecution history of the 580 patent, the Examiner agrees with the description of the prosecution history provided by the Requester in the Request at pp. 9-11.

In summary, Claims 1 and 2 were objected to due to an antecedent basis but otherwise deemed allowable in the first office action dated Sep. 1, 2010. In Mar. 1, 2011 response, Patent Owner amended claims 1 and 2 and added claims 123-124 which would issue as claims 58 and 59, respectively. Claims 1 and 2 and 123-124 (patented claims 58-59) were allowed after further amendments by the Patent Owner. No reason for allowance was given by the Examiner of the 910 application.

## 2. Prosecution history of Inter partes Reviews of the 580 patent

*(Request, pp. 11-15)*

### **A. IPR2014-00518**

Based upon the Examiner's independent review of the file history of IPR2014-00518 and the Requester's description of the prosecution history of IPR2014-00518, the Examiner agrees with the description of the prosecution history provided by the Requester in the Request at pp. 11-12.

Specifically, the PTAB did not institute review of claims 2 and 59 of the 580 patent because the petitioner did not show that the prior art taught the limitations of these claims which



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requires “‘indicat[ing]’ that the communication from the master to the slave has reverted to the first modulation method.” IPR2014-00518, Pap. 16 at pp. 14-15.

On Sep. 17, 2015, the PTAB found all reviewed claims, i.e., claims 1, 4-5, 10, 13, 20-22, 54, 57, 58, 61-62, 66, 70 and 76-79, including the independent claims 1 and 58 from which  
5 claims 2 and 59 depend, unpatentable over Boer in view of Applicant's admitted prior art. IPR2014-00518, Pap. 47 at p. 21.

### **B. IPR2014-00519**

Based upon the Examiner's independent review of the file history of IPR2014-00519 and  
10 the Requester's description of the prosecution history of IPR2014-00519, the Examiner basically agrees with the description of the prosecution history provided by the Requester in the Request at p. 14.

To summarize, PTAB instituted inter partes reviews of claims 32, 34, 38, 40, 43, 44 and 47 of the 580 patent but declined to institute reviews of claims 23, 25, 29, 30 and 41. Patent  
15 Owner disclaimed claims 32, 34, 40, 43 and 44 later. On Sep. 17, 2015, the PTAB found the remaining claims, i.e., claims 38 and 47, unpatentable. IPR2014-00519, Pap. 49 at p. 11.

### **C. IPR2014-00514 and IPR2014-00515**

Based upon the Examiner's independent review of the file history of IPR2014-00514 and  
20 IPR2014-00515 and the Requester's description of the prosecution history of IPR2014-00514 and IPR2014-00515, the Examiner agrees with the description of the prosecution history provided by the Requester in the Request at pp. 14-15.

To summarize, PTAB did not institute inter partes review because the petitioner did not make a sufficient showing that the references relied upon in the petitions was publicly available before the claimed priority date.

5

**D. IPR2015-00114 and IPR2015-00118**

Based upon the Examiner's independent review of the file history of IPR2015-00114 and IPR2015-00118 and the Requester's description of the prosecution history of IPR2015-00114 and IPR2015-00118, the Examiner agrees with the description of the prosecution history provided by the Requester in the Request at p. 15.

To summarize, PTAB did not institute inter partes reviews because the petitioner merely presented "the same or substantially the same prior art or arguments" presented in IPR 2014-00518 and IPR 2014-00519.

15 3. Reason of Allowance based on Prosecution history

Based on the prosecution histories of the 580 patent and the IPR proceedings in which the independent claims 1 and 58 were found unpatentable, the Examiner finds that a reference or a combination of references teaching or suggesting at least the following features:

20 transmit[ing] a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

in the context of data communication and modulators and demodulators using two modulation methods would be a new, non-cumulative teaching not previously before the Office

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during the examination of the 580 patent and the prior IPR proceedings and therefore may raise a substantial new question of patentability.

## VI. PROPOSED SUBSTANTIAL NEW QUESTION OF PATENTABILITY

5

The Request alleges the following substantial new questions of patentability (SNQs) based on the above-identified prior art:

SNQ1: Claims 2 and 59 of the 580 patent are unpatentable under 35 U.S.C. §103(a) as being obvious over Snell in view of Yamano and Kamerman.

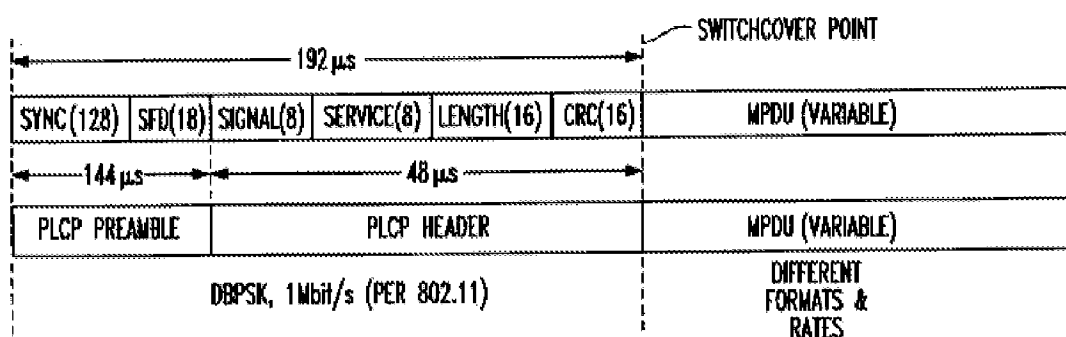
SNQ2: Claims 2 and 59 of the 580 patent is unpatentable under 35 U.S.C §103(a) as being obvious over Snell in view of Harris 4064.4, Harris AN9614, Yamano, and Kamerman.

SNQ3: Claims 2 and 59 of the 580 patent are unpatentable under 35 U.S.C §103(a) as being obvious over Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman.

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at col. 4, lines 42-47 and col. 5, lines 18-21. Snell's transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a "first modulation method" (e.g., BPSK) and a "second modulation method" (e.g., QPSK) that is "of a different type than the first modulation method." (col. 2, lines 27-30, "*It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher*

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data rates and which may switch on-the-fly between different data rates and/or formats.” col. 7, lines 10-14, “The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” col. 2, lines 15-17, “Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-fly.”).

**FIG. 3**

-Snell, Fig. 3.

Snell discloses that each data packet transmission comprises a “group of transmission sequences” structured with a “first portion” (e.g., a PLCP preamble and PLCP header) and a “payload portion” (e.g., MPDU data). Id. at col. 6, lines 35-36, col. 6, lines 64-66, col. 7, lines 5-14, Fig. 3. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. Id. at Fig. 3, col. 6, line 48-col. 7, lines 14. The MPDU data is the data to be transmitted to the receiving transceiver. Id. at col. 7, lines 5-6 (“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation.”); see also Id. at col. 7, lines 6-14, Fig. 3.

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Snell teaches that the PLCP preamble and PLCP header are always modulated using the “first modulation method” (e.g., BPSK) (col. 6, lines 35-36, “*The header may always be BPSK,*” Fig. 3). Snell further discloses that “*first information in the first portion*” (e.g., the SIGNAL field in the PLCP header) “*indicates*” which of the “*first modulation method*” (e.g., BPSK) and “*second modulation method*” (e.g., QPSK) is used for modulating “*second information*” in the “*payload portion*” (e.g., MPDU data).

Snell teaches that the SIGNAL field in the PLCP header can have four values (col. 6, lines 54-59), each of which corresponds to a modulation method for the MPDU data (col. 6, lines 52-59, col. 7, lines 1-2, col. 7, lines 5-14, Fig. 3).

10

SFD is F3A0h for the PLCP preamble 90. Now relating to the PLCP header 91, the SIGNAL is:

0Ah	1 Mbit/s BPSK,
14h	2 Mbit/s QPSK,
37h	5.5 Mbit/s BPSK, and
6Eh	11 Mbit/s QPSK.

-Snell, col. 6, lines 52-59.

Snell’s transceiver transmits a first group of transmission sequences comprising a “first sequence” (e.g., PLCP preamble and PLCP header) that is “*modulated according to the first modulation method*” (e.g., BPSK) where the “*first sequence*” (e.g., “SIGNAL” field in PLCP header) “*indicates*” (e.g., using “14h”) the modulation type (e.g., QPSK) used for modulating the “*second sequence*” (e.g., MPDU data). For the first packet, the “SIGNAL” field in the PLCP header uses a code (e.g., “14h”) that “*indicates*” when the MPDU data is modulated “*according*”

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*to the second modulation method*” (e.g., QPSK). The *“second modulation method”* (e.g., QPSK) *“is of a different type than the first modulation method”* (e.g., BPSK).

Snell’s transceiver then transmits a second packet comprising a *“third sequence”* (e.g., PLCP preamble and PLCP header) *“transmitted in the first modulation method”* (e.g., BPSK) where the *“third sequence”* (e.g., “SIGNAL” field in PLCP header) *“indicates”* (e.g., using “OAh”) the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet.

Thus Snell teaches “transmit[ting] a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.”

Because Snell teaches the limitations of claims 2 and 59 of the 580 patent, found important to the patentability of claims 2 and 59 of the 580 patent by the examiner of the 580 patent and the PTAB, there is a substantial likelihood that a reasonable examiner would consider this teaching important in deciding whether or not claims 2 and 59 of the 580 patent are patentable. Accordingly, Snell raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent.

Because Snell raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent, Snell in view of Yamano and Kamerman, Snell in view of Harris 4064.4, Harris AN9614, Yamano, and Kamerman, or Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman, also raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent.

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## VII. NOTICE RE PATENT OWNER'S CORRESPONDENCE ADDRESS

37 C.F.R. § 1.33(c) states:

5 (c) All notices, official letters, and other communications for the patent owner or owners in a reexamination or supplemental examination proceeding will be directed to the correspondence address in the patent file.

The correspondence address for any pending reexamination proceeding not having the same correspondence address as that of the patent is, by way of this revision to 37 CFR 1.33(c), automatically changed to that of the patent file as of the effective date.

10 This change is effective for any reexamination proceeding which is pending before the Office as of May 16, 2007, including the present reexamination proceeding, and to any reexamination proceeding which is filed after that date.

Parties are to take this change into account when filing papers, and direct communications accordingly.

15 In the event the patent owner's correspondence address listed in the papers (record) for the present proceeding is different from the correspondence address of the patent, it is strongly encouraged that the patent owner affirmatively file a Notification of Change of Correspondence Address in the reexamination proceeding and/or the patent (depending on which address patent owner desires), to conform the address of the proceeding with that of the patent and to clarify the  
20 record as to which address should be used for correspondence.

Telephone Numbers for reexamination inquiries:

Reexamination (571) 272-7703

Central Reexam Unit (CRU) (571) 272-7705

### VIII. CONCLUSION

Extensions of time under 37 C.F.R. § 1.136(a) will not be permitted in these proceedings because the provisions of 37 C.F.R. § 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '285 patent throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286. The third party requester is similarly apprised of the ability to disclose such proceedings.

Registered users of EFS-Web may alternatively submit correspondence via the electronic filing system at <https://efs.uspto.gov/efile/nwportal/efs-registered>

Any inquiry concerning this communication or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:

/Yuzhen Ge /  
Primary Examiner  
Art Unit 3992

Conferees:

/CML/

/Kenneth J. Whittington/  
Primary Examiner  
Acting SPE, AU3992



<b>Order Granting Request For Ex Parte Reexamination</b>	<b>Control No.</b> 90/013,808	<b>Patent Under Reexamination</b> 8023580
	<b>Examiner</b> Yuzhen Ge	<b>Art Unit</b> 3992

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

The request for *ex parte* reexamination filed 12 September 2016 has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a)  PTO-892,      b)  PTO/SB/08,      c)  Other: \_\_\_\_\_

1.  The request for *ex parte* reexamination is GRANTED.

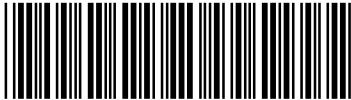
RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

/Yuzhen Ge/ Primary Examiner, Art Unit 3992	/KENNETH J WHITTINGTON/ Primary Examiner, Art Unit 3992	
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cc:Requester ( if third party requester )

<b>Reexamination</b> 	<b>Application/Control No.</b> 90013808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Certificate Date</b>	<b>Certificate Number</b>

<b>Requester Correspondence Address:</b>	<input type="checkbox"/> <b>Patent Owner</b>	<input checked="" type="checkbox"/> <b>Third Party</b>
ROPES & GRAY LLP IPRM DOCKETING - FLOOR 43 PRUDENTIAL TOWER 800 BOYLSTON STREET BOSTON, MA 02199-3600		

<b>LITIGATION REVIEW</b> <input checked="" type="checkbox"/>	/YG/ (examiner initials)	09/20/2016 (date)
Case Name	Director Initials	
Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., C.A. No. 2:13-cv-00213-JRG (E D. Tex.), open.		
Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., C.A. No. 2:16-cv-00170-JRG (E D. Tex.), open.		
Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., No. 2016-1729 (Fed. Cir.), open.		

<b>COPENDING OFFICE PROCEEDINGS</b>	
<b>TYPE OF PROCEEDING</b>	<b>NUMBER</b>
1. None	

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PTO/SB/08b (07-09)  
 Approved for use through 07/31/2012. OMB 0651-0031  
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE                  STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>		
		Application Number	RE of Patent No. 8,023,580	
		Issue Date	September 20, 2011	
		First Named Inventor	Gordon F. Bremer	
		Art Unit	2611	
		Examiner Name	Dac V. Ha	
Sheet	2	2	Attorney Docket Number	110797-0019-501

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	Ex. E	Andren and Fakatselis, "Using the PRISM <sup>TM</sup> Chip Set for Low Data Rate Applications," Harris Semiconductor Application Note 9614 (March 1996), pp. 1-3.	
	Ex. F	Harris Semiconductor - "HSP3824, Direct Sequence Spread Spectrum Baseband Processor," Harris Semiconductor File Number 4064.4 (October 1996), pp. 1-40.	
	Ex. G	Declaration of Jon Mears, Exhibit A thereto (Upender et al., "Communication Protocols for Embedded Systems," <i>Embedded Systems Programming</i> , Vol. 7, Issue 11, November 1994), pp. 1-12.	
	Ex. I	Kammerman, A., "Throughput Density Constraints for Wireless LANs Based on DSSS", <i>Spread Spectrum Techniques and Applications Proceedings, IEEE 4th International Symposium on, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3</i>	

Examiner Signature	/YUZHEN GE/	Date Considered	09/20/2016
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<sup>1</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>2</sup>Applicant's unique citation designation number (optional). <sup>3</sup>Applicant is to place a check mark here if English language Translation is attached.

<b>POWER OF ATTORNEY and CORRESPONDENCE ADDRESS INDICATION FORM</b>	<b>Application/Patent Number</b>	12/543,910 / 8,023,580
	<b>Filing Date</b>	August 19, 2009
	<b>First Named Inventor</b>	Gordon F. Bremer
	<b>Art Unit</b>	2611
	<b>Examiner Name</b>	Dac V. Ha
	<b>Attorney Docket Number</b>	3277-114
	<b>Title</b>	System and Method of Communication Using at Least Two Modulation Methods

The below-named Assignee of record of the entire interest in the subject application, through its authorized representative identified below, hereby revokes all previous powers of attorney given in the above-identified application and hereby appoints the practitioners associated with the Customer Number 06449 as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

*Statement under 37 CFR 3.73(b)*

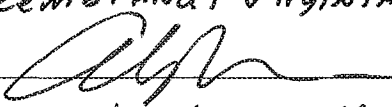
A chain of title from the inventors, of the patent application/patent identified above to the current assignee as follows:

1. Assignment From: Summit Technology Systems, LP  
To: Rembrandt Wireless Technologies, LP

The document was recorded in the U.S. Patent and Trademark Office at Reel 027085, Frame 0636.

**ACKNOWLEDGEMENT AND CONSENT BY ASSIGNEE TO OBTAIN INSTRUCTIONS FROM ANOTHER PARTY**

Assignee, through its undersigned authorized representative, hereby acknowledges that the practitioners appointed herein may obtain instructions as to any action to be taken in the U.S. Patent and Trademark Office on any application to which this power of attorney may be directed, or on any patent which may issue on any such application, from assignee's third-party agents or attorneys, or other designee, who have been authorized by assignee to convey such instructions, and assignee expressly consents to this arrangement. In the event of a change in the persons from whom instructions are to be taken, the practitioners appointed herein shall be so notified by the assignee.

<b>Assignee Name</b>	Rembrandt Wireless Technologies, LP, by its general partner,
<b>Signature of Authorized Representative</b>	Rembrandt Virginia Management, LLC 
<b>Typed or Printed Name</b>	Alex Lempinen
<b>Typed or Printed Title</b>	Secretary
<b>Date</b>	9/27/2016

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	27050862
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	15027
<b>Filer:</b>	Martin M. Zoltick/Tamika Miles
<b>Filer Authorized By:</b>	Martin M. Zoltick
<b>Attorney Docket Number:</b>	110797-0019-501
<b>Receipt Date:</b>	27-SEP-2016
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	18:08:14
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	Power_of_Attorney.pdf	163808  <small>3e1a5f9569830f74b911f20740490b970634 bdfc</small>	no	1

### Warnings:

<b>Information:</b>	
<b>Total Files Size (in bytes):</b>	163808
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>	



UNITED STATES PATENT AND TRADEMARK OFFICE

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BIB DATA SHEET

CONFIRMATION NO. 2211

<b>SERIAL NUMBER</b> 90/013,808	<b>FILING or 371(c) DATE</b> 09/12/2016 <b>RULE</b>	<b>CLASS</b> 375	<b>GROUP ART UNIT</b> 3992	<b>ATTORNEY DOCKET NO.</b> 110797-0019-501
<b>APPLICANTS</b> <b>INVENTORS</b> 8023580, Residence Not Provided; REMBRANDT WIRELESS TECHNOLOGIES, LP, ARLINGTON, VA; SAMSUNG ELECTRONICS CO., LTD. (3RD PTY REQ.), GYEONGGI-DO, KOREA, REPUBLIC OF; SAMSUNG ELECTRONICS AMERICA, INC. (3RD PTY REQ.), RIDGEFIELD PARK, NJ; ROPES & GRAY LLP PRUDENTIAL TOWER, BOSTON, MA				
<b>** CONTINUING DATA *****</b> This application is a REX of 12/543,910 08/19/2009 PAT 8023580 which is a CON of 11/774,803 07/09/2007 PAT 7675965 which is a CON of 10/412,878 04/14/2003 PAT 7248626 which is a CIP of 09/205,205 12/04/1998 PAT 6614838 which claims benefit of 60/067,562 12/05/1997				
<b>** FOREIGN APPLICATIONS *****</b> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **</b>				
Foreign Priority claimed <input type="checkbox"/> Yes <input type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input type="checkbox"/> No Verified and Acknowledged _____ Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	<b>STATE OR COUNTRY</b>	<b>SHEETS DRAWINGS</b>	<b>TOTAL CLAIMS</b> 79
<b>INDEPENDENT CLAIMS</b> 7				
<b>ADDRESS</b> ROTHWELL, FIGG, ERNST & MANBECK, P.C. 607 14th Street, N.W. SUITE 800 WASHINGTON, DC 20005 UNITED STATES				
<b>TITLE</b> SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS				
<b>FILING FEE RECEIVED</b> 12000	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	





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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
90/013,808	09/12/2016	8023580	110797-0019-501

**CONFIRMATION NO. 2211**

**POWER OF ATTORNEY NOTICE**

15027  
Condo Roccia Koptiw LLP  
1800 JFK Boulevard  
Suite 1700  
Philadelphia, PA 19103



Date Mailed: 09/30/2016

**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 09/27/2016.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/rbell/



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
90/013,808	09/12/2016	8023580	110797-0019-501

**CONFIRMATION NO. 2211**

**POA ACCEPTANCE LETTER**

6449  
ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
607 14th Street, N.W.  
SUITE 800  
WASHINGTON, DC 20005



Date Mailed: 09/30/2016

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 09/27/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/rbell/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 2633  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING THE DIRECTOR TO EXERCISE HER DISCRETIONARY  
AUTHORITY UNDER 35 U.S.C. § 325(d)  
PURSUANT TO 37 C.F.R. § 1.181(a)(2) AND/OR § 1.182**

Pursuant to 37 C.F.R. § 1.181(a)(2) and/or § 1.182, Rembrandt Wireless Technologies, LP (“Rembrandt”) respectfully requests the Director to exercise her discretionary authority under 35 U.S.C. § 325(d) to reject the Request for *Ex Parte* Reexamination of claims 2 and 59 of U.S. Patent No. 8,023,580 (“Request”) filed by Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. (collectively “Samsung”). By its plain language, the second sentence of § 325(d) applies to such Requests in the same way that it applies to AIA review proceedings:

**In determining whether to institute *or order* a proceeding under this chapter, *chapter 30 [the ex parte reexamination chapter], or chapter 31, the Director may take into account whether, and reject the petition *or request* because, the same or substantially the same prior art or arguments previously were presented to the Office [emphasis added].***

This Petition is timely filed, i.e., within two months of Samsung's filing of the Request and prior to the Office acting on the Request. To the extent the Office believes any rules, such as 37 C.F.R. § 1.530 or § 1.33, prevent consideration of Rembrandt's Petition, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Samsung's present request is the *seventh* challenge it has made in the Office to U.S. Patent No. 8,023,580 (the "'580 Patent") and the *fourth* challenge it has made to claims 2 and 59 in particular (the claims challenged in its present Request).<sup>1</sup> A brief history of Samsung's challenges to the claims of the '580 Patent in the Office,<sup>2</sup> including those to claims 2 and 59, is as follows:

On March 20, 2014, Samsung filed *four* petitions for *inter partes* review of claims of the '580 Patent. Two of these four petitions were denied with respect to all challenged claims because Samsung failed to show a reasonable likelihood it would prevail on any of the grounds raised. See IPR2014-00514, Paper 18, at 10 (Sept. 9, 2014)(denied as to claims 1, 2, 4, 5, 10, 13, 19–22, 49, 52–54, 57–59, 61, 62, 66, 70, and 76– 79); and IPR2014-00515, Paper 18, at 10-11 (Sept. 9, 2014)(denied as to claims 23, 25, 29, 30, 32, 34, 38, 40, 41, 43, 44, and 47). In the two

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<sup>1</sup> Samsung has also concurrently filed a Request for *Ex Parte* Reexamination of claim 21 of U.S. Patent No. 8,457,228 (the "'228 Patent"), the child of the '580 Patent. With respect to the '228 Patent, Samsung's Request is its *eighth* challenge to the claims of that patent. See IPR2014-00889, -00890, -00891, -00892, -00893, -00895, and 2015-00555). Rembrandt has also concurrently filed a petition under 37 CFR § 1.181(a)(3) and § 1.182 asking the Director to reject Samsung's Request for *Ex Parte* Reexamination of claim 21 of the '228 Patent for substantially the same reasons it is requesting the Director to do so here.

<sup>2</sup> The '580 Patent and the '228 Patent are also the subject of a lawsuit in which Rembrandt served the complaint on June 5, 2013 and asserted infringement by Samsung. *Rembrandt Wireless Technologies, LP v. Samsung Electronics Co.*, No. 2:13-cv-00213 (E.D. Tex.). Samsung *unsuccessfully* challenged the validity of claims 2 and 59 of the '580 Patent and of claim 21 of the '228 Patent in that lawsuit as well. That case is now on appeal at the Federal Circuit, No. 16-1729.

others filed the same day, the petitions were partially granted with respect to some claims but denied with respect to others. See IPR2014-00518, Paper 16, at 17 (Sept. 23, 2014)(granted as to claims 1, 4, 5, 10, 13, 20–22, 54, 57, 58, 61, 62, 66, 70, and 76–79, but denied as to claims 2, 19, 49, 52, 53, and 59); and IPR2014-00519, Paper 16, at 15 (Sept. 23, 2014)(granted as to claims 32, 34, 38, 40, 43, 44, and 47, but denied as to claims 23, 25, 29, 30, and 41). Two of Samsung’s four petitions filed on March 3, 2014 included a challenge of claims 2 and 59, and in *both* instances the petitions for review of these claims were denied. IPR2014-00514, Paper 18, at 10, and IPR2014-00518, Paper 16, at 17. In each case, the Board determined that Samsung had not demonstrated a reasonable likelihood of prevailing as to either claim 2 or claim 59. *Id.*

Having failed in its first round of challenges with respect to claims 2 and 59 of the ‘580 Patent, Samsung filed two more petitions for *inter partes* review of the ‘580 patent on October 21, 2014, presenting additional reasoning to support its allegations of obviousness. The Board denied these fifth and sixth challenges to claims of the ‘580 Patent through the exercise of the Director’s discretion under 35 U.S.C. § 325(d). See IPR2015-00114, Paper 14, at 6-9 (January 28, 2015) (denying review of all claims challenged, *i.e.*, claims 2, 19, 49, 53, 53, and 59); and IPR2015-00118, Paper 14, at 5-7 (January 28, 2015) (denying review for all claims challenged, *i.e.*, claims 23, 25, 29, 30, and 41).

When exercising the Director’s discretion to deny institution in IPR2015-00114, the Board has explained its reasoning as follows:

Petitioner is requesting, essentially, a second chance to challenge the claims. We, however, are not persuaded that a second chance would help “secure the just, speedy, and inexpensive resolution of every proceeding.” 37 C.F.R. § 42.1(b). Permitting second chances in cases like this one ties up the Board’s limited resources; we must be mindful not only of this proceeding, but of “every proceeding.” *Id.*; *see also ZTE Corp. v. ContentGuard Holdings*,

*Inc.*, Case IPR2013-00454, slip op. at 5–6 (Paper 12) (PTAB Sept. 25, 2013) (“The Board is concerned about encouraging, unnecessarily, the filing of petitions which are partially inadequate.”) . . . .

In this proceeding, however, we are not apprised of a reason that merits a second chance. Petitioner simply presents arguments now that it could have made in IPR ’518, had it merely chosen to do so. In view of the foregoing, . . . we exercise our discretion under 35 U.S.C. § 325(d) to deny the Petition, because it presents merely “the same or substantially the same prior art or arguments” presented to us in IPR ’518. [IPR2015-00114, Paper 14, at 7-8; see also IPR2015-00118, Paper 14, at 5-7 (applying similar reasoning).]

While in its present Request Samsung has cited additional art that it did not cite in any of its earlier thirteen IPRs challenging the ‘580 and ‘228 Patents, it does not explain why the additional art could not have been presented earlier. The Board addressed such tardy citation of additional art in one of the ‘228 Patent IPRs when it exercised the Director’s discretion to deny the petition in spite of the inclusion of an additional reference:

The difference between what Petitioner presents in this proceeding and what Petitioner presented in IPR ’892 with respect to claim 21 of the ’228 patent is that Petitioner now offers Siwiak as support for the asserted obviousness of placing address data in a message header as taught by Boer. Pet. 24–57; Mot. Join. 5–6. Petitioner, however, presents no argument or evidence that Siwiak was not known or available to it at the time of filing IPR ’892. . . .

Petitioner is requesting, essentially, a second chance to challenge the claims. . . .

In this proceeding . . . we are not apprised of a reason that merits a second chance. Petitioner simply presents arguments now that it could have made in IPR ’892, had it merely chosen to do so. [IPR2015-00555, Paper 20, at 7-9.]

The Board has consistently denied such “follow-on” challenges as representing impermissible “second bites at the apple,” which use the prior institution decision “to bolster

challenges that were advanced, unsuccessfully, in [an earlier petition],” *Unilever Inc. v. Procter & Gamble*, IPR2014-00506, Paper 17, at 8 (July 7, 2014), “as a roadmap to remedy [petitioner’s] prior, deficient challenge,” *Butamax v. Gevo, Inc.*, IPR2014-00581, Paper 8, at 12-13 (Oct. 14, 2014), or “as an entry ticket, and a how-to guide ... to challenge those claims which [petitioner] unsuccessfully challenged in the first petition,” *ZTE Corp. v. ContentGuard*, IPR2013-00454, Paper 12, at 6 (Sept. 25, 2013).

Indeed, in rebuffing such attempts to remedy earlier failures, the Board has especially weighed whether a petitioner has demonstrated that the art or arguments were not known or available to it at the time of filing the earlier petition. *See, e.g., Unilever Inc. v. Procter & Gamble*, IPR2014-00506, Paper 17, at 6, 8 (July 7, 2014) (“Unilever, however, presents no argument or evidence that the seven newly cited references were not known or available to it at the time of filing of [an earlier petition] ... Based on the information presented, we are persuaded that the instant Petition uses our prior Decision on Institution to bolster challenges that were advanced, unsuccessfully, in the [earlier petition].”); *Butamax v. Gevo, Inc.*, IPR2014-00581, Paper 8, at 12-13 (Oct. 14, 2014) (“Our discretion to deny these grounds is further guided by several additional facts. First, we note that Butamax does not contend that the newly cited references were not known or available to it at the time it filed the [earlier petition]. *See Unilever, Inc. v. Procter & Gamble Co.*, Case IPR2014-00506, Paper 17, at 6 (July 7, 2014) (considering, in exercising § 325(d) discretion, whether new references were previously known).”).

In Samsung’s present Request, Samsung does not argue that the newly cited references were not available to it at the time of its multiple earlier IPRs, and there is no reason why Samsung should be afforded a “second bite” here.

Denying Samsung's present Request is consistent with the legislative intent behind § 325(d), which is to prevent gamesmanship through the filing of multiple proceedings in a piecemeal manner. *See* 157 Cong. Rec. S1042 (daily ed. Mar. 1, 2011) (Statement of Sen. Kyl) (Sen. Kyl stating that § 325(d) "allows the Patent Office to reject any request for a proceeding, *including a request for ex parte reexamination*, if the same or substantially the same prior art or arguments previously were presented to the Office with respect to that patent.") (emphasis added). *See also Butamax*, IPR2014-00581, Paper 8, at 13 ("Our discretion to deny these grounds is further guided by several additional facts. First, we note that Butamax does not contend that the newly cited references were not known or available to it at the time it filed the [earlier petition]... Allowing similar, serial challenges to the same patent, by the same petitioner, risks harassment of patent owners and frustration of Congress's intent in enacting the Leahy-Smith America Invents Act. *See* H.R. Rep. No. 112-98, pt. 1, at 48 (2011) ('While this amendment is intended to remove current disincentives to current administrative processes, the changes made by it are not to be used as tools for harassment or a means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent. Doing so would frustrate the purpose of the section as providing quick and cost effective alternatives to litigation.')"). *See also Conopco, Inc. dba Unilever v. Proctor & Gamble*, IPR2014-00628, Paper 21, at 11 ("the interests of fairness, economy, and efficiency support declining review – a result that discourages the filing of a first petition that holds back...").

Granting Samsung's Request in this proceeding would incentivize patent challengers to file serial petitions and requests and increase the burden on both the Office and patent owners in having to respond to renewed attacks from unhappy challengers seeking a reconsideration of the



Office's decisions denying institution and/or reexamination, based on arguments that the challenger could have set forth from the beginning. Clearly, this was not the intent of Congress.

When Congress established *ex parte* reexamination and the AIA review proceedings, Congress wanted to provide a more efficient system for challenging patents and a way to reduce litigation costs. However, in petitioning for multiple IPRs and now requesting *ex parte* reexamination for claims it unsuccessfully challenged in the IPRs and district court, Samsung was not and is not seeking such efficiency and cost reduction. Samsung could have filed its IPRs (as well as its present *ex parte* reexamination requests) early in the district court litigation process, and moved to stay the district court litigation. It chose not to do so. Rather, Samsung allowed the district court litigation to advance and waited until the last possible day to file its first six IPRs challenging the '580 Patent claims – making a stay of the litigation unlikely and ensuring that the IPRs would not reach the stage of a final written decision until after the district court case was tried in February 2015. This timing eliminated any risk that Samsung would be estopped (by a final decision from the Office) from contesting validity at trial, and secured for Samsung another venue in which it could seek to invalidate the patent in the event it lost at trial. Contrary to the intent of Congress, Samsung has timed its multiple challenges in the Office in a manner that actually decreases efficiency and increases litigation costs.

Having failed yet a *third* time in challenging claims 2 and 59 of the '580 Patent through *inter partes* review, Samsung now makes a *fourth* attempt by turning to another Office proceeding, *ex parte* reexamination. Samsung presents no argument or evidence that was not known or available to it at the time it filed the multiple *inter partes* reviews described above.<sup>3</sup>

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<sup>3</sup> Cf. *Praxair Distribution, Inc. v. iNO Therapeutics LLC*, IPR2016-00781, Paper 10, at 7 (Aug. 25, 2016) (exercising its discretion to deny an *inter partes* petition under § 325(d), the PTAB determined that “reasonably could have been raised,” in the context of § 315(e)(1), included

Thus, for the reasons given above, including those the Board gave in denying institution of IPR2015-00114 and IPR2015-00555 through the exercise of the Director's discretion under § 325(d) (both quoted above), Patent Owner Rembrandt respectfully requests that the Director exercise her discretion in this case to reject Samsung's Request for *Ex Parte* Reexamination of claims 2 and 59 of U.S. Patent No. 8,023,580.

Any fee required for submission of this Petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: September 30, 2016

By: /Nancy J. Linck/  
Nancy J. Linck, Reg. No. 31,920  
**ROTHWELL, FIGG, ERNST  
& MANBECK, P.C.**  
607 14<sup>th</sup> Street, N.W., Suite 800  
Washington, DC 20005  
Phone: 202-783-6040  
Facsimile: 202-783-6031

*Attorney for Petitioner  
Rembrandt Wireless Technologies, LP*

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prior art “‘which a skilled searcher conducting a diligent search reasonably could have been expected to discover.’ 157 Cong. Rec. S1375 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl)”). This reasoning should apply equally to late-cited prior art that reasonably could have been raised in an earlier Office proceeding.

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 30<sup>th</sup> day of September, 2016, the foregoing **PETITION REQUESTING THE DIRECTOR TO EXERCISE HER DISCRETIONARY AUTHORITY UNDER 35 U.S.C. § 325(d) PURSUANT TO 37 C.F.R. § 1.181(a)(2) AND/OR § 1.182** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

*/ Nancy J. Linck /*

\_\_\_\_\_  
Nancy J. Linck  
Reg. No. 31,920

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	27089650
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Martin M. Zoltick/Tamika Miles
<b>Filer Authorized By:</b>	Martin M. Zoltick
<b>Attorney Docket Number:</b>	110797-0019-501
<b>Receipt Date:</b>	30-SEP-2016
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	15:10:20
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Petition.pdf	145930  <small>9e667b2e347559c6067b5d22c6b6aa885 2148a7</small>	yes	9

<b>Multipart Description/PDF files in .zip description</b>			
<b>Document Description</b>		<b>Start</b>	<b>End</b>
Petition for review by the Office of Petitions		1	8
Reexam Certificate of Service		9	9

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**Information:**

<b>Total Files Size (in bytes):</b>	145930
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Gordon F. Bremer	§	Control No. 90/013,808
U.S. Patent No. 8,023,580	§	Attorney Docket No.: 110797-0019-501
Formerly Application No. 12/543,910	§	Customer No.: 28120
Issue Date: September 20, 2011	§	Examiner: Yuzhen Ge
Filing Date: August 19, 2009	§	Requesters: Samsung Electronics Co., Ltd.,
Former Group Art Unit: 2611	§	Samsung Electronics America, Inc.
Former Examiner: Dac Ha	§	

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**THIRD PARTY REQUESTERS' OPPOSITION TO PATENT OWNER'S  
PETITION TO REJECT REEXAMINATION REQUEST**

Rembrandt's petition to reject the *ex parte* reexamination request in this proceeding should be denied. Rembrandt's petition is an improper submission not permitted under the rules for reexamination and not invited by the Director. Moreover, the Examiner already granted the request for reexamination of the '580 patent *before* Rembrandt filed its petition to reject the request, making findings that contradict arguments made by Rembrandt's petition. Rembrandt does not even attempt to show, as required by § 325(d), that the cited reexamination references or arguments are "the same or substantially the same" as any prior challenges—and they are not. Rembrandt's petition should be rejected as an improper and meritless attempt to derail this reexamination.

## I. BACKGROUND

On September 12, 2016, Samsung filed requests for *ex parte* reexamination of U.S. Patent Nos. 8,023,580 (the “’580 patent”) and 8,457,228 (the “’228 patent”). The ’228 patent is a continuation of the ’580 patent, and the challenged claims of both patents involve substantially the same subject matter: “a data communications system in which a plurality of modulation methods are used to facilitate communication among a plurality of modem types.” ’580 patent at 1:19-23. Each request cites the same six references, five of which the PTO has never considered in connection with the challenged patents.<sup>1</sup> Furthermore, each request details the patent’s history before the PTO, including original prosecution and all post-grant proceedings. *E.g.*, Request at 7-15. Except for the present reexamination ordered by the Examiner on September 27, 2016, the Office has not conducted any prior or concurrent reexaminations and has never instituted any post-grant trial on the challenged claims.

On September 27, 2016, only fifteen days after Samsung filed the Request for the ’580 patent, the Examiner ordered reexamination of all challenged claims. *See* Order Granting Request for *Ex Parte* Reexamination (“Order”). In doing so, the Examiner reviewed in detail the prosecution history and each *inter partes* review involving the ’580 patent. *See id.* at 5-8. After analyzing this record, the Examiner found that:

Based on the prosecution histories of the 580 patent ***and the IPR proceedings*** in which the independent claims 1 and 58 were found unpatentable, the Examiner finds that a reference or a combination of references teaching or suggesting at least the following features . . . in the context of data communication and

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<sup>1</sup> None of the cited Snell, Yamano, Harris 4064.4, Harris AN9614, and Kamerman references was considered or applied during prosecution of the ’580 patent, its parent applications, or during *inter partes* review of the ’580 patent. *See* Order Granting Request for *Ex Parte* Reexamination (“Order”) at 3-4; Request for *Ex Parte* Reexamination of U.S. Patent No. 8,023,580 (“Request”) at 5-7. Upender was before the Office during prior *inter partes* review proceedings (*see* Order at 3-4), but only to establish motivation to combine the master/slave relationship of the admitted prior art with a different prior art reference (Boer) (*see* Request at 1-2, 5-7, 13).

modulators and demodulators using two modulation methods would be a *new, non-cumulative teaching not previously considered* before the Office during the examination of the 580 patent *and the prior IPR proceedings* and therefore may raise a substantial new question of patentability.

*Id.* at 7-8 (emphases added). Accordingly, the Examiner agreed with Samsung that the cited Snell reference raises multiple SNQs in combination with additional cited references, and further determined *sua sponte* that Snell raises an SNQ by itself. *See id.* at 11.

On September 30, 2016—three days *after* reexamination of the '580 patent was granted—Rembrandt filed petitions seeking rejection of the reexamination requests for both patents. *See* Rembrandt Petition (“Petition”). Each petition is based solely on the provision of § 325(d) that permits the Director to “take into account whether . . . the same or substantially the same prior art or arguments previously were presented to the Office.” *See id.* at 1.

## **II. REMBRANDT’S PETITION IS BASELESS AND SHOULD BE DENIED**

Rembrandt’s petition has no procedural basis under Office rules. The Petition is also meritless because the Office has already ordered reexamination and determined that the prior art and arguments in this proceeding present new and non-cumulative teachings that were not previously considered by the Patent Office.

### **A. The Petition is Improper and Untimely**

Rembrandt’s Petition is an improper attempt by the Patent Owner to influence this *ex parte* reexamination. The Office’s rules plainly prohibit any patent owner statements prior to the Examiner’s decision on a reexamination request: “The patent owner has no right to file a statement subsequent to the filing of the request under 35 U.S.C. 302 but prior to the order for reexamination.” MPEP § 2249. After an order granting reexamination and before further examination, a patent owner may file a single statement limited to “why the subject matter as claimed is not anticipated or rendered obvious.” 37 C.F.R. § 1.530(c). Rembrandt’s Petition



does not address the prior art or any substantive arguments. While Rembrandt invokes § 325(d) as a basis for rejecting the Request, the governing rules—as with other questions concerning the grant or denial of a reexamination request—do not call for the patent owner’s input regarding § 325(d) at this stage, and the Director has not invited any briefing or submissions on this issue in reexamination. For this reason alone, the Petition is an improper patent owner submission.<sup>2</sup>

Moreover, the Petition is untimely and moot because the Examiner *had already ordered reexamination* before the Petition was filed. Rembrandt asserts that the Petition is “timely filed . . . prior to the Office acting on the Request.” Petition at 2. This is plainly false because the Examiner granted reexamination three days before the Petition was filed. Therefore, Rembrandt’s demand that the Director “reject the Request for *Ex Parte* Reexamination” is not only improper, but was also already moot when it was filed.

**B. Rembrandt Fails to Show That any Art or Arguments are the Same or Substantially the Same as Previous Submissions**

Despite invoking § 325(d) as the sole basis for denying reexamination, Rembrandt wholly ignores the statutory test of whether “the same or substantially the same prior art or arguments” are involved. The Petition does not even identify a single reference cited in the Request—much less explain how any are substantially the same as those presented previously. In fact, Rembrandt cannot make this showing because five of the six references are entirely new materials never before considered by the Office.<sup>3</sup> Indeed, Rembrandt concedes that “in its present Request Samsung has cited additional art that it did not cite” in earlier proceedings. Petition at 4.

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<sup>2</sup> Samsung contends that Rembrandt’s submission is procedurally improper. To the extent the Office permits Rembrandt’s Petition in this reexamination, Samsung respectfully requests that the Office also grant Samsung’s petition to oppose Rembrandt’s arguments.

<sup>3</sup> There is no estoppel under § 315(e) because the challenged claims have not been the subject of any final written decisions in prior proceedings.

The Examiner already resolved any doubt about the presence of “the same or substantially the same” challenges here by ordering reexamination. As explained above, the Examiner determined that the cited prior art presents “a *new, non-cumulative* teaching not previously considered before the Office and therefore may raise a substantial new question of patentability.” Order at 7-8 (emphasis added). Rembrandt’s baseless arguments about purported delay and multiple proceedings are also misplaced—the Examiner expressly reviewed the entire history of the ’580 patent, including “the IPR proceedings” (*id.* at 7), and nonetheless ordered that the newly presented art warrants reexamination. Accordingly, the Office has already determined that § 325(d) does not apply to this proceeding.

Rembrandt refers to PTAB decisions that purportedly support its position, but each is readily distinguishable. In each case, the Board expressly identified the use of the same or substantially the same references or arguments. In *Unilever Inc. v. Procter & Gamble*, the Board applied § 325(d) to deny institution of an *inter partes* review because six of thirteen asserted references were raised in a prior petition and “the claim charts essentially are identical in both petitions.” IPR2014-00506, Paper 17, at 6-7 (P.T.A.B. July 7, 2014). Here, in this reexamination, the claim charts differ entirely, five of six cited references are new, and the Examiner has already found that the art presents new, non-cumulative teachings. Similarly, in *Butamax Advanced Biofuels LLC v. Gevo, Inc.*, the PTAB denied institution because four of six prior art references appeared in a prior petition, and the art cited for obviousness “overlaps completely” with previously asserted grounds. IPR2014-00581, Paper 8, at 12 (P.T.A.B. Oct. 14, 2014). In *ZTE Corp. v. ContentGuard Holdings Inc.*, the *inter partes* review petition started “on weak footing” because it was untimely and subject to an unsuccessful joinder motion. IPR2013-00454, Paper 12, at 5-6 (P.T.A.B. Sept. 25, 2013). Moreover, “half of the grounds of

invalidity” were “based on the same prior art references” presented in an earlier petition. *Id.* at 7. Likewise, *Praxair Distribution, Inc. v. iNO Therapeutics LLC* involved a situation where petitioners’ “underlying argument” about the teachings of the prior art was “essentially the same” as that raised in a prior petition. IPR2016-00781, Paper 10, at 12 (P.T.A.B. Aug. 25, 2016). Again, no such overlap of art or arguments exists here, and Rembrandt has not even attempted to show that the same or substantially the same art or arguments were previously asserted.

Rembrandt also incorrectly claims that the Board previously denied institution of a prior petition against the ’228 patent due to “tardy citation of additional art.” Petition at 4. Critically, Rembrandt misleadingly omits the portion of the Board’s decision stating that the reference at issue (Siwiak) was *not* a new reference but one that had actually been previously cited in an earlier petition (bolded portion omitted by Rembrandt):

Petitioner, however, presents no argument or evidence that Siwiak was not known or available to it at the time of filing IPR ’892. **In fact, Petitioner applied Siwiak in proposed grounds of rejection against claim 21 of the ’228 patent in another petition filed the same day as that in the IPR ’892 proceeding. See IPR2014-00889, Paper 2 at 58–60. On this record, we exercise our discretion and ‘reject the petition’ because ‘the same or substantially the same prior art’ previously was ‘presented to the Office’ in the IPR ’892 proceeding.**

*Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, IPR2015-00555, Paper 20, at 7-8 (P.T.A.B. June 19, 2015); *compare* Petition at 4. Thus, Rembrandt leaves out the fact that Siwiak was cited as prior art in both an earlier and later petition. Moreover, Siwiak was one of only two references cited in the later petition. *See id.* at 5. The Board expressly relied on these facts in applying § 325(d). Rembrandt has not, and cannot, make such a showing here.

### III. CONCLUSION

For the foregoing reasons, Samsung respectfully requests that the Office deny Patent Owner’s September 30, 2016 petition.

Dated: October 13, 2016

Respectfully submitted,

/J. Steven Baughman/

J. Steven Baughman

Registration No. 47,414

James F. Mack

Registration No. 74,196

Customer No. 28120

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(202) 383-8371 (Fax)

*Attorneys/Agents for Requesters*

*Samsung Electronics Co., Ltd. and Samsung*

*Electronics America, Inc.*

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Gordon F. Bremer	§	Control No. 90/013,808
U.S. Patent No. 8,023,580	§	Attorney Docket No.: 110797-0019-501
Formerly Application No. 12/543,910	§	Customer No.: 28120
Issue Date: September 20, 2011	§	Examiner: Yuzhen Ge
Filing Date: August 19, 2009	§	Requesters: Samsung Electronics Co., Ltd.,
Former Group Art Unit: 2611	§	Samsung Electronics America, Inc.
Former Examiner: Dac Ha	§	

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**THIRD PARTY REQUESTERS' PETITION TO RESPOND TO PATENT OWNER'S  
PETITION TO REJECT REEXAMINATION REQUEST**

Pursuant to 37 C.F.R. § 1.183, third-party requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. ("Samsung") respectfully petition the Director for permission to oppose Patent Owner Rembrandt Wireless Technologies, LP's ("Rembrandt") September 30, 2016 petition requesting that the Director exercise her discretionary authority under 35 U.S.C. § 325(d) to reject the reexamination request in this proceeding.

Extraordinary circumstances justify allowing Samsung to submit an opposition to the Patent Owner's petition. Office rules do not permit the Patent Owner to submit arguments challenging a request for reexamination at this stage. Samsung has no means for addressing this petition other than seeking permission to respond. Moreover, the petition advances an application of § 325(d) that is unsupported by the statute and warrants briefing. Rembrandt

fails to show that Samsung's cited prior art or arguments in this reexamination are "the same or substantially the same" as those previously presented to the Office, as required by § 325(d). Moreover, Patent Owner filed its petition *after* the Examiner determined that the cited references do, in fact, present new, non-cumulative technological teachings and multiple substantial new questions of patentability. Accordingly, Samsung seeks permission to oppose the Patent Owner's petition and hereby submits the proposed Opposition.

Samsung hereby requests that any fees required for timely consideration of this petition and Opposition be charged to Deposit Account No. 18-1945, under Order No. 110797-0019-501, from which the undersigned is authorized to draw. If there are any questions, counsel for Samsung may be contacted through the direct telephone number provided below.

Dated: October 13, 2016

Respectfully submitted,

/J. Steven Baughman/

J. Steven Baughman

Registration No. 47,414

James F. Mack

Registration No. 74,196

Customer No. 28120

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(202) 508-4606

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*Attorneys/Agents for Requesters*

*Samsung Electronics Co., Ltd. and Samsung*

*Electronics America, Inc.*

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	27210552
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Jon Steven Baughman/ginny blundell
<b>Filer Authorized By:</b>	Jon Steven Baughman
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	13-OCT-2016
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	20:59:12
<b>Application Type:</b>	Reexam (Third Party)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reexam Certificate of Service	110797-0019-501_COS.pdf	81444  <small>3ad76b649cd3065d24ce8c52e2c95b118a4735e3</small>	no	2

**Warnings:**

Information:					
2	Reexam - Opposition filed in response to petition	110797-0019-501_Opposition_to_Reject_Exam_Request.pdf	150965 b86e835aa997b70c0e6ec435fed119417f6087f3	no	7
Warnings:					
Information:					
3	Receipt of Petition in a Reexam	110797-0019-501_Petition.pdf	109965 57652f6674460831989e4dc4216dba88545475dd	no	2
Warnings:					
Information:					
<b>Total Files Size (in bytes):</b>				342374	
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Gordon F. Bremer	§	Control No. 90/013,808
U.S. Patent No. 8,023,580	§	Attorney Docket No.: 110797-0019-501
Formerly Application No. 12/543,910	§	Customer No.: 28120
Issue Date: September 20, 2011	§	Examiner: Yuzhen Ge
Filing Date: August 19, 2009	§	Requesters: Samsung Electronics Co., Ltd.,
Former Group Art Unit: 2611	§	Samsung Electronics America, Inc.
Former Examiner: Dac Ha	§	

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF SERVICE**

It is certified that copies of the following documents have been served in their entireties  
on the patent owner at the correspondence address of record as provided for in 37 C.F.R.

§ 1.33(c):

1. Third Party Requesters' Petition To Respond To Patent Owner's Petition To  
Reject Reexamination Request.
2. Third Party Requesters' Opposition To Patent Owner's Petition To Reject  
Reexamination Request.

The copy has been served on October 13, 2016 by causing the aforementioned documents to be deposited with the United States Postal Service as first class mail postage pre-paid in an envelope addressed to:

Rothwell, Figg, Ernst & Manbeck, P.C.  
607 14<sup>th</sup> Street, N.W.  
Suite 800  
Washington, DC 20005

/ James F. Mack /  
James F. Mack

**ROPES & GRAY LLP**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 2633  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PATENT OWNER’S REQUEST FOR A TWO-MONTH EXTENSION OF TIME  
UNDER 37 C.F.R. § 1.550(c) TO FILE ITS PATENT OWNER’S STATEMENT  
PURSUANT TO 35 U.S.C. § 304**

Pursuant to 37 CFR § 1.550(c), Patent Owner Rembrandt respectfully requests a two-month extension of time to file its Patent Owner’s Statement in *Ex Parte* Reexamination of U.S. Patent 8,023,580 (“580 Reexamination”). The additional time is necessary for Counsel to fully review the voluminous record relevant to this reexamination and prepare an informed Patent Owner’s Statement. Present Counsel for Patent Owner was just recently engaged to handle this

and a second related *ex parte* reexamination<sup>1</sup> and did not obtain an acknowledgement of Power of Attorney until September 30, 2016 (after the grant of the '580 Reexamination).<sup>2</sup>

Samsung's request comprises more than the 1,000 pages (including the exhibits). In addition, the history of Samsung's prior challenges to claims 2 and 59 dates back to March 20, 2014. At that time, Samsung filed 4 IPRs against the '580 Patent. Then, due to its unsuccessful challenges of, *inter alia*, claims 2 and 59, Samsung again challenged these claims by filing two additional IPRs on October 21, 2014. Those challenges also failed. Given the magnitude of the '580 Request, the significant number of documents filed in the multiple IPRs and issued by the Board, and the lack of any time to review the '580 Request prior to its almost immediate grant, Patent Owner Rembrandt respectfully requests a two-month extension of time to review these potentially relevant documents so that it can properly prepare Patent Owner's Statement.

While Rembrandt recognizes the need to handle reexaminations with "special dispatch," there is no reason to deny Rembrandt a fair opportunity to respond to yet another challenge to the patentability of its claims 2 and 59. Thus, to the extent Samsung has argued that this matter is particularly urgent (see Request at i-ii), Rembrandt notes that Samsung has offered no reason why it could not have submitted the references submitted in this *ex parte* reexamination as early as March 20, 2014, when Samsung first challenged the patentability of claims 2 and 59. Thus, Samsung's plea for expediting this case more than is called for by the "special dispatch" requirement should be ignored.

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<sup>1</sup> Ex Parte Reexamination of U.S. 8,457,228 (90/013,809) ("228 Reexamination). Via a second petition, Rembrandt is also requesting an extension of time in this case.

<sup>2</sup> The '580 Request was granted on Sept. 27, 2016, only 15 days after the Request was filed and prior to present Counsel's receipt of the '580 Request. The new Power of Attorney was not acknowledged until September 30, 2016, after the Examiner granted the request.

The petition fee of \$200 set forth in 37 C.F.R. § 1.17(g) for filing a petition for an extension of time under 37 C.F.R. § 1.1550(c) together with any additional fees that may be due with respect to this paper may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

Date: November 1, 2016

By: /Nancy J. Linck/  
Nancy J. Linck, Reg. No. 31,920  
**ROTHWELL, FIGG, ERNST  
& MANBECK, P.C.**  
607 14<sup>th</sup> Street, N.W., Suite 800  
Washington, DC 20005  
Phone: 202-783-6040  
Facsimile: 202-783-6031

*Attorney for Petitioner  
Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 1<sup>st</sup> day of November, 2016, the foregoing **PATENT OWNER'S REQUEST FOR A TWO-MONTH EXTENSION OF TIME UNDER 37 C.F.R. § 1.550 TO FILE IT'S PATENT OWNER'S STATEMENT PURSUANT TO 35 U.S.C. § 304** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

*/ Nancy J. Linck /* \_\_\_\_\_

Nancy J. Linck  
Reg. No. 31,920

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	27387152
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Edward Anthony Figg/Judith Pennington
<b>Filer Authorized By:</b>	Edward Anthony Figg
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	01-NOV-2016
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:18:05
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		580EOTRequest.pdf	38094  <small>2b082191ef59e3f4d4f830a9fa11b9d668938f93</small>	yes	4

<b>Multipart Description/PDF files in .zip description</b>			
<b>Document Description</b>		<b>Start</b>	<b>End</b>
Reexam Request for Extension of Time		1	3
Reexam Certificate of Service		4	4

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	38094
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**





UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 90/013,808, inventor ROTHWELL, FIGG, ERNST & MANBECK, P.C., and examiner GE, YUZHEN.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents  
United States Patents and Trademark Office  
P.O.Box 1450  
Alexandria, VA 22313-1450  
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
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800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date: **MAILED**

**NOV 04 2016**

**CENTRAL REEXAMINATION UNIT**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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<b>Decision on Petition for Extension of Time in Reexamination</b>	Application No.	Applicant(s)	
	90/013,808	8023580	
	Examiner	Art Unit	
	Ge, Yuzhen	3992	

1. THIS IS A DECISION ON THE PETITION FILED November 1, 2016.
2. THIS DECISION IS ISSUED PURSUANT TO:
- A.  37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
- B.  37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
- C.  37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
- The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS  
Patent owner requests that the period for filing its patent owner's statement be extended by 2 months.
- A. Petition fee per 37 CFR §1.17(g):
- i.  Petition includes authorization to debit a deposit account.
- ii.  Petition includes authorization to charge a credit card account.
- iii.  Other \_\_\_\_\_.
- B.  Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
- C.  Petition was timely filed.
- D.  Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)
- A.  Granted or  Granted-in-part for one (1) month. The period for response will expire on December 27, 2016.  
No extraordinary circumstances were shown. See MPEP 2265 VI.
- B.  Dismissed because:
- i.  Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
- ii.  Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
- iii.  Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
- iv.  The statements provided fail to establish sufficient cause to warrant extension of the time for taking action (See attached).
- v.  The petition is moot.
- vi.  Other/comment: \_\_\_\_\_

5. CONCLUSION

Telephone inquiries with regard to this decision should be directed to Michael Fuelling at 571-270-1367. In his/her absence, calls may be directed to Alexander Kosowski in the Central Reexamination Unit.

/Michael Fuelling/  
Supervisory Patent Reexamination Specialist



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/013,808	09/12/2016	8023580	3277-0114US-RXM1	2211

6449                      7590                      11/28/2016  
 ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
 607 14th Street, N.W.  
 SUITE 800  
 WASHINGTON, DC 20005

EXAMINER

GE, YUZHEN

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
11/28/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents  
United States Patents and Trademark Office  
P.O.Box 1450  
Alexandria, VA 22313-1450  
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43  
800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date: MAILED

NOV 20 2008

CENTRAL REEXAMINATION UNIT

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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Rothwell, Figg, Ernst & Manbeck, P.C.  
607 14<sup>th</sup> Street, N.W.  
Suite 800  
Washington, D.C. 20005

(For Patent Owner)

**MAILED**

**NOV 23 2016**

Ropes & Gray LLP  
IPRM Docketing – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, MA 02199-3600

(For Requester)

**CENTRAL REEXAMINATION UNIT**

In re Bremer  
*Ex Parte* Reexamination Proceeding  
Control No. 90/013,808  
Filed: September 12, 2016  
For: U.S. Patent No.: 8,023,580

:  
:  
: **DECISION**  
:  
: **DISMISSING**  
:  
: **PETITIONS**

This decision addresses the following papers:

- Patent owner’s September 30, 2016 petition entitled “Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182”, which is taken as a petition under 37 CFR 1.182 to vacate the order granting reexamination mailed on September 27, 2016 and to issue an order denying reexamination (patent owner’s September 30, 2016 petition under 37 CFR 1.182);
- Requester’s October 13, 2016 opposition entitled “Third Party Requester’s Opposition to Patent Owner’s Petition to Reject Reexamination Request”, which is an opposition to patent owner’s September 30, 2016 petition (requester’s October 13, 2016 opposition);
- Requester’s October 13, 2016 petition under 37 CFR 1.183 entitled “Third Party Requester’s Petition to Respond to Patent Owner’s Petition to Reject Reexamination Request”, which requests permission from the Director to oppose patent owner’s September 30, 2016 petition (requester’s October 13, 2016 petition under 37 CFR 1.183); and
- Patent owner’s October 25, 2016 paper entitled “Patent Owner’s Reply to Third Party Requester’s Opposition to Patent Owner’s Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182”, which is a response by the patent owner to requester’s October 13, 2016 opposition (patent owner’s October 25, 2016 paper).

Patent owner’s September 30, 2016 petition under 37 CFR 1.182, requester’s October 13, 2016 opposition, requester’s October 13, 2016 petition under 37 CFR 1.183, patent owner’s

October 25, 2016 paper, and the record as a whole, are before the Office of Patent Legal Administration for consideration.

### SUMMARY

Patent owner's September 30, 2016 petition under 37 CFR 1.182 is **dismissed**.

The September 27, 2016 order granting reexamination **will not be vacated**. Prosecution in the present reexamination proceeding **will continue**.

Requester's October 13, 2016 petition under 37 CFR 1.183 is **dismissed as moot**. Requester's October 13, 2016 opposition has been entered and considered.

Patent owner's October 25, 2016 paper entitled "Patent Owner's Reply to Third Party Requester's Opposition to Patent Owner's Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182" is **improper** and **will not be considered**. Patent owner's October 25, 2016 paper is being *sua sponte* **expunged** from the record by marking the papers "closed" and "non-public," and will not constitute part of the record of the present reexamination proceeding.

### REVIEW OF THE RELEVANT FACTS

- On September 20, 2011, U.S. Patent No. 8,023,580 (the '580 patent) issued to Gordon F. Bremer.
- On September 12, 2016, the third party requester filed a request for *ex parte* reexamination of the '580 patent, requesting reexamination of claims 2 and 59. The reexamination proceeding was assigned control no. 90/013,808 (the present proceeding) and was accorded a filing date of September 12, 2016.
- On September 27, 2016, reexamination of claims 2 and 59 of the '580 patent was ordered in the present proceeding.
- On September 30, 2016, the patent owner filed the present petition entitled "Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182" (patent owner's September 30, 2016 petition).
- On October 13, 2016, the requester filed an opposition to patent owner's September 30, 2016 petition (requester's October 13, 2016 opposition).
- Also on October 13, 2016, the requester filed a petition entitled "Third Party Requester's Petition to Respond to Patent Owner's Petition to Reject Reexamination Request", which requests permission from the Director to oppose patent owner's September 30, 2016 petition (requester's October 13, 2016 petition under 37 CFR 1.183).

- On October 25, 2016, the patent owner filed a paper entitled “Patent Owner’s Reply to Third Party Requester’s Opposition to Patent Owner’s Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182”, which is a response by patent owner to requester’s October 13, 2016 opposition (patent owner’s October 25, 2016 paper).

## DECISION

### *Patent Owner’s September 30, 2016 Petition*

The patent owner requests the Office to “reject” the request filed in the present proceeding for *ex parte* reexamination of claims 2 and 59 of the ’580 patent, pursuant to 35 U.S.C. 325(d). The present petition is taken as a petition under 37 CFR 1.182 to vacate the September 27, 2016 order granting reexamination, and to issue an order denying reexamination, on the basis that the request is allegedly limited to the same or substantially the same prior art or arguments previously presented to the Office, pursuant to 35 U.S.C. 325(d).

As an initial matter, the Office notes that the present petition, and requester’s opposition thereto, were **timely filed** after the order for reexamination was mailed. The patent owner, however, appears to have intended to file its petition prior to the mailing of the order. The parties are reminded that any papers filed prior to the decision on the request which are directed to the merits of the reexamination will not be considered and will be expunged from the record.<sup>1</sup> See MPEP 2225. For example, a petition to vacate the order granting reexamination as *ultra vires* on the basis that the request does not raise a substantial new question of patentability, may only be filed *after* the decision on the request is rendered. See, e.g., MPEP 2246. Papers directed to the merits of the reexamination include petitions alleging that the request is limited to the same or substantially the same prior art or arguments previously presented to the Office, contrary to 35 U.S.C. 325(d), and any opposition thereto.

35 U.S.C. 325(d) provides, in pertinent part (emphasis added):

In determining whether to . . . order a proceeding under . . . chapter 30, . . . the Director may take into account whether, and reject the . . . request because, the same or substantially the same prior art or arguments previously were presented to the Office.

The patent owner points to the legislative history of 35 U.S.C. 325(d) to show that the provisions of the statute apply to requests for *ex parte* reexamination, citing 157 Cong. Rec. S1042 (Daily Ed. Mar. 1, 2011)(Statement of Sen. Kyl) (emphasis added):

[35 U.S.C. 325(d)] allows the Patent Office to reject any request for a proceeding, **including a request for ex parte reexamination**, if the same or substantially the same prior art or arguments previously were presented to the Office with respect to that patent.

The patent owner, however, does not argue that the same or substantially the same prior art or arguments previously were presented to the Office. In fact, the patent owner admits that the art

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<sup>1</sup> Some exceptions, which are enumerated in MPEP 2225, apply.



relied upon by the third party requester in the present request was not previously presented to the Office,<sup>2</sup> also as argued by the requester in its October 13, 2016 opposition.<sup>3</sup> Furthermore, the patent owner does not provide any discussion regarding whether the arguments presented in the request are the same or substantially the same as those previously presented to the Office. More importantly, however, even if some or all of the arguments are later shown to be the same or substantially the same as those previously presented to the Office, the patent owner has not shown that the prior art relied upon in the request is cumulative to the prior art of record, or, for that matter, that the request does not raise a substantial new question of patentability for other reasons.

The standard for determining whether a request for *ex parte* reexamination is granted is whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request. See 35 U.S.C. 303(a) and 304. 35 U.S.C. 325(d) does not *require* the Office to reject a request for reexamination. The statute merely permits the Office, within the Office's discretion, to reject the request if the same or substantially the same prior art or arguments previously were presented to the Office with respect to that patent. 35 U.S.C. 304, however, *requires* the Office to order reexamination if the Office finds that a substantial new question of patentability affecting any claim of the patent concerned is raised by the request. See 35 U.S.C. 304, which provides, in pertinent part (emphasis added):

If . . . the Director finds that a substantial new question of patentability affecting any claim of a patent is raised, **the determination will include an order for reexamination** of the patent for resolution of the question.

A reference raises a substantial new question of patentability where 1) the reference contains a new, non-cumulative technological teaching that was not previously considered and discussed on the record during the prior examination of the patent; and 2) there is a substantial likelihood that a reasonable examiner would consider the teaching of the reference important in determining the patentability of a claim of the patent under reexamination. See MPEP 2216. See also MPEP 2242, which provides, in pertinent part:

If the prior art patents and printed publications raise a substantial question of patentability of at least one claim of the patent, then a substantial new question of patentability as to the claim is present, unless the same question of patentability has already been: (A) decided in a final holding of invalidity by a federal court in a decision on the merits involving the claim, after all appeals; (B) decided in an earlier concluded examination or review of the patent by the Office; or (C) raised to or by the Office in a pending reexamination or supplemental examination of the patent.

The patent owner does not argue that the request does not raise a substantial new question of patentability. Instead, the patent owner argues that the requester has not explained why the art

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<sup>2</sup> The requester notes, in its October 13, 2016 opposition, that the Upender reference was before the Office during prior *inter partes* review proceedings, but only to establish motivation to combine the admitted prior art with a different prior art reference (the Boer reference). See footnote 1 of requester's October 13, 2016 opposition.

<sup>3</sup> See page 4 of requester's October 13, 2016 opposition.

could not have been presented earlier.<sup>4</sup> The patent owner points to a total of six petitions for *inter partes* reviews (IPRs) of the '580 patent: IPR2014-00514, IPR2014-00515, IPR2014-00518, IPR2014-00519, IPR2015-00114, and IPR2015-00118. In four of them, institution was denied. In the remaining two (IPR2014-00518 and IPR2014-00519) final written decisions were rendered before the present request for reexamination was filed; however, neither *inter partes* review involved a review of claims 2 and 59 of the '580 patent, which are the only claims under reexamination in the present proceeding. In fact, only two of the *inter partes* reviews included challenges to claims 2 and 59, and in each case, review of these claims was denied.<sup>5</sup>

The patent owner argues that the third party requester has not shown that the art or arguments were known or available to the requester at the time of filing the earlier petitions for *inter partes* review. The patent owner points out that the Patent Trial and Appeals Board (Board), when determining whether to institute an *inter partes* review, has analyzed whether a petitioner has shown whether the art or arguments were known or available to the requester at the time of filing the earlier *inter partes* reviews.

The present proceeding, however, is an *ex parte* reexamination proceeding, not an *inter partes* review. The standard for determining whether a request for *ex parte* reexamination is granted is whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request, as stated previously.

The patent owner argues that permitting the requester to request *ex parte* reexamination in the present proceeding “would incentivize patent challengers to file serial petitions and requests and increase the burden on the both the Office and patent owners in having to respond to renewed attacks.” In other words, the patent owner is essentially arguing that permitting the filing of the present request for *ex parte* reexamination would encourage harassment of the patent owner.

The legislative history of the *ex parte* reexamination statute, however, reflects an intent by Congress that the *ex parte* reexamination process would not create new opportunities to harass the patent owner. See, e.g., H.R. Rep. No. 1307 (part I), 96<sup>th</sup> Cong., 2d Sess. 7 (Statement of Congressman Kastenmeier, September 9, 1980):

This “substantial new question” requirement would protect patentees from having to respond to, or participate in unjustified reexaminations.

The legislative history of the 2002 amendment to the reexamination statute also states that the amendment “preserves the ‘substantial new question standard’ that is an important safeguard to protect all inventors against frivolous action and against harassment,” and “also preserves the discretion of the Patent and Trademark Office in evaluating these cases.”<sup>6</sup> See also *Industrial Innovation & Patent & Copyright Law Amendments: Hearings on H.R. 6933, 6934, 3806, &*

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<sup>4</sup> See page 4 of the present petition, in which the patent owner states:

While in its present Request Samsung has cited additional art that it did not cite in any of its earlier thirteen IPRs challenging the '580 and '280 Patents, it does not explain why the additional art could not have been presented earlier.

<sup>5</sup> See IPR2014-00514 and IPR2014-00518.

<sup>6</sup> 147 Cong. Rec H 5358, 107<sup>th</sup> Congress, (September 5, 2001).

214 Before the Subcommittee on Courts, Civil Liberties and the Administration of Justice of the House Committee on the Judiciary, 96<sup>th</sup> Cong., 2<sup>nd</sup> Sess. 594 (1980) (statement of Sidney Diamond, Commissioner of Patents & Trademarks, April 24, 1980):

[The proposed *ex parte* reexamination statute] carefully protects patent owners from reexamination proceedings brought for harassment or spite. The possibility of harassing patent holders is a classic criticism of some foreign reexamination systems and we made sure it would not happen here.

To prevent the use of the reexamination process to harass the patent owner, Congress included the requirement that a substantial new question of patentability based on patents and printed publications must be raised by the request. See also *Patlex v. Mossinghoff*, 771 F.2d 480, 483-484 (Fed. Cir. 1985)(italics in original), where the Federal Circuit, in quoting the statement of Commissioner Diamond immediately above, stated:

Study of the genesis of the reexamination statute leaves no doubt that the major purpose of the threshold determination whether or not to reexamine is to provide a safeguard to the patent holder . . . That is the only purpose of the procedure established by 35 U.S.C. § 303: “carefully” to protect holders of issued patents from being subjected to unwarranted reexaminations.

Furthermore, the purpose of reexamination is to permit the Office to reexamine the patent on the basis of prior art which was not previously considered during an earlier examination or review of the patent. There is a strong public interest that all of the prior art be considered. See, for example, *In re Etter*, 225 USPQ 1 (Fed. Cir. 1985), in which the Federal Circuit, when discussing whether the § 282 presumption of validity has application in reexamination proceedings, stated:

Reexamination is thus neutral, the patentee and the public having an equal interest in the issuance and maintenance of valid patents.

In this instance, prior art relied upon in the request for reexamination was found by the examiner to raise a substantial new question of patentability. Reexamination was then ordered, as required by 35 U.S.C. 304. The examiner issued a 13-page order for reexamination detailing the substantial new questions of patentability presented in the request, and it is in the public interest to resolve those questions. The public has a right to the resolution of any legitimate substantial new question of patentability affecting the claims under reexamination.

For all of the reasons stated above, patent owner’s September 30, 2016 petition under 37 CFR 1.182 is **dismissed**.

The September 27, 2016 order granting reexamination **will not be vacated**. Prosecution in the present reexamination proceeding **will continue**.

***Requester's October 13, 2016 Petition under 37 CFR 1.183***

The requester requests the Office to permit the requester to file an opposition to patent owner's September 30, 2016 petition. The requester asserts that extraordinary circumstances justify entry and consideration of requester's opposition, which was concurrently filed with its petition under 37 CFR 1.183.

Patent owner's September 30, 2016 petition, however, is taken as a petition to vacate the order granting reexamination on the basis that the request for reexamination allegedly is limited to the same or substantially the same prior art or arguments previously presented to the Office. An opposition by the requester to such a petition has a right of entry in the same manner as an opposition by the requester to a petition to vacate the order granting reexamination as *ultra vires* on the basis that the request does not raise a substantial new question of patentability (see MPEP 2246).

For this reason, requester's October 13, 2016 petition is **dismissed as moot**. Requester's October 13, 2016 opposition has been entered and considered.

***Patent Owner's October 25, 2016 Paper***

Patent owner's October 25, 2016 paper entitled "Patent Owner's Reply to Third Party Requester's Opposition to Patent Owner's Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182" is a response to requester's opposition to patent owner's September 30, 2016 petition, and for this reason, is **improper** and **will not be considered**. See MPEP 2267, subsection II, which provides, in pertinent part (emphasis added):

In those rare instances where an opposition to a patent owner petition is filed, after such opposition is filed by a third party requester (regardless of whether such opposition has an entry right or not), **any further paper in opposition/rebuttal/response to the third party opposition paper will not be considered and will be expunged**. There must be a limitation on party iterations of input, especially given the statutory mandate for special dispatch in reexamination.

Pursuant to MPEP 2267, patent owner's October 25, 2016 paper is being *sua sponte* **expunged** from the record by marking the papers "closed" and "non-public," and will not constitute part of the record of the present reexamination proceeding.

**CONCLUSION**

- Patent owner's September 30, 2016 under 37 CFR 1.182 to vacate the order granting reexamination and issue an order denying reexamination in the present reexamination proceeding is **dismissed**.
- The order granting reexamination mailed on September 27, 2016 **will not be vacated**. Prosecution in the present reexamination proceeding **will continue**.

- Requester's October 13, 2016 petition under 37 CFR 1.183 is **dismissed as moot**. Requester's October 13, 2016 opposition has been entered and considered.
- Patent owner's October 25, 2016 paper entitled "Patent Owner's Reply to Third Party Requester's Opposition to Patent Owner's Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182" is **improper** and **will not be considered**. Patent owner's October 25, 2016 paper is being *sua sponte* **expunged** from the record by marking the papers "closed" and "non-public," and will not constitute part of the record of the present reexamination proceeding.
- The present proceeding is being forwarded to the Central Reexamination Unit to continue prosecution.
- Any inquiry concerning this communication should be directed to the undersigned at (571) 272-7724.

/Cynthia L. Nessler/

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Cynthia L. Nessler  
Senior Legal Advisor  
Office of Patent Legal Administration

11/22/2016

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 2633  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :

Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY  
AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182**

Pursuant to 37 C.F.R. § 1.181(a)(1) and/or § 1.182, Rembrandt Wireless Technologies, LP (“Rembrandt”) respectfully requests the Director to exercise her supervisory authority under Rule 181(a)(1) to require revision and reissue of the non-final Office Action (mailed January 24, 2017) rejecting claims 2 and 59 of U.S. Patent No. 8,023,580 (“the ‘580 Patent”) in the above-referenced *ex parte* reexamination. Rembrandt respectfully further requests that the Director require the original January 24 Office Action to be stricken from the record. Rembrandt’s request is based on the limits and requirements of *ex parte* reexamination and examination generally, which Rembrandt believes have not been observed in the outstanding Office Action. These limitations and requirements are: (1) With respect to original claims, *ex parte* reexamination is limited to examination “on the basis of patents or printed publications,” MPEP

2258 (quoting 37 CFR 1.552(a)), and therefore does not permit examination on, *inter alia*, § 112 issues or other objections to the specification in the absence of amendments during reexamination. (2) As acknowledged in the Office Action at 3, a claim in *ex parte* reexamination that has not expired must be given its “broadest reasonable interpretation in light of the specification,” MPEP 2111. Rembrandt is entitled to know what that interpretation is. The Office Action does not identify what it considers to be the broadest reasonable interpretation but rather relies on two different interpretations to reject the same claims. There is no provision in the *ex parte* reexamination statutes, regulations, or the MPEP that permits more than one such interpretation for any given claim. Further, also with respect to the Office’s claim interpretation, Rembrandt is entitled to know whether the Office is giving patentable weight to the claims’ preambles. The Office Action does not take a position on this issue. (3) Finally, the Office Action enters a § 102(e) rejection, based on a single reference (Snell) and not proposed in the Request for Ex Parte Reexamination of U.S. Patent No. 8,023,580 (“Samsung’s Request”), that does not provide support for concluding that Snell discloses several significant claim limitations. Rembrandt is entitled to know the Office’s bases for this rejection. *See* 37 CFR 1.104(c)(2) (During any examination, “[w]hen a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable [and] [t]he pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.”). *See also* MPEP 2262 (“The first Office action must be sufficiently detailed that the pertinency and manner of applying the cited prior art to the claims in each rejection is clearly set forth therein.”).

Statement of Facts Relevant to Petition

- 1) On September 12, 2016, following its repeated failure to successfully attack claims 2 and 59 of the '580 Patent in multiple IPRs and after the conclusion of a district court action involving the '580 Patent that has been pending since March 2013 and is now awaiting a decision from the Federal Circuit, Samsung requested this *ex parte* reexamination attacking the same claims it was unable to defeat during the IPRs or during the district court litigation.
- 2) On September 30, 2016, Rembrandt filed a petition asking the Director to exercise her discretion under 35 U.S.C. §325(d) to deny the petition based on multiple proceedings attacking the same claims and lack of any reason why Samsung should have yet another opportunity to attack the same claims. That petition was dismissed on November 28, 2016.
- 3) On September 27, 2016, the Office granted Samsung's Request.
- 4) On January 24, 2017, the Office issued a non-final Office Action ("OA") that is outside the scope of *ex parte* reexamination. In the absence of any amendments, *ex parte* reexamination is limited to reexamination based on patents and printed publications. The Office Action exceeds its authority by (a) reexamining the claims under 35 U.S.C. § 112 and concluding that "a rejection under 35 USC 112 1<sup>st</sup> paragraph scope of enablement would be advanced for both claims 2 and 59," if such a rejection could be made (OA at 4-6); (b) reexamining and objecting to the '580 drawings and demanding that Rembrandt amend the '580 Patent by providing substitute drawings and labelling Figure 2 with "a legend such as --Prior Art -- ... to avoid abandonment" (OA at 11); and (c) reexamining and objecting to the specification as "failing to provide proper antecedent basis for the claimed subject matter" (OA at 12 (citing 37 CFR 1.75(d)(1) and MPEP § 608.01)). With respect to the objection to the drawings, the Office Action threatens "abandonment of the application," if they are not corrected as



instructed. (OA at 11). Rembrandt is not aware of any basis in law for such actions during an *ex parte* reexamination.

- 5) The January 24 Office Action relies on two different claim interpretations to reject claims 2 and 59 and thus does not provide the Office's broadest reasonable interpretation of these claims. (OA at 6-9). Based on "Interpretation B" (OA at 15, lines 21-23), it adopts all of Samsung's 35 U.S.C. § 103 bases for unpatentability based on combinations of from three to six references by incorporating significant portions of Samsung's Request (OA at 15-19). Based on "Interpretation A" (OA at 12, lines 25-27), the Office Action enters another ground of rejection under 35 U.S.C. § 102(e) based on Snell (OA at 12-15). There cannot be more than one broadest reasonable construction of the claims, and it is inappropriate to require Rembrandt to address multiple or hypothetical constructions in response to an Office Action.
- 6) Further, also with respect to the Office's claim interpretation, the Office fails to indicate whether the claims' preambles are to be given patentable weight. All three of the Office's § 103(a) rejections in the January 24 Office Action rely heavily on incorporation by reference of the claim charts in Samsung's Request. (See OA at 15-19 (incorporating Samsung's Request at 39-62, 62-88, & 88-102)). In fact, two of the rejections are based solely on the incorporated claim charts, without further comment. (See OA at 19). In addressing the preambles to the rejected claims, the cited portions of Samsung's Request take no position on whether the preambles are a limitation of the claims. (See Samsung's Request at 40, 70, 98 ("To the extent this preamble is considered a limitation of the claim ...."). And, like the Request, the Office takes no position either. As part of the Office Action and its broadest reasonable interpretation of the claims, the Office is required to take a position on this issue.

It is inappropriate to require Rembrandt to respond to the Office Action without knowing how the Office is construing the preamble language in claims 2 and 59.

- 7) The January 24 Office Action also fails to provide supporting citations and clear explanations for at least part of its analyses of claims 2 and 59 under § 102(e) based on Snell. The claimed invention is limited to “a communication device capable of communicating according to a master/slave relationship” (emphasis added). In its § 102(e) rejection, the Office Action is completely silent as to where Snell discloses a master/slave relationship as claimed. For example, with respect to the anticipation rejection based on Snell (OA at 12-15), there is no support given for the conclusion that Snell’s communication device is “capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave” (OA at 13). While the Office Action states “Snell is capable of such communication,” no citation to Snell is provided. Furthermore citations to Snell are not provided for the remaining findings and conclusions on the same page (*see id.*), nor for related findings and conclusions that continue on pages 14 to 15.

Rembrandt’s Petition Should Be Granted Because the Office Action Exceeds  
The Limited Scope of *Ex Parte* Reexamination

The scope of *ex parte* reexamination is set forth in 37 CFR 1.552:

(a) Claims in an *ex parte* reexamination proceeding will be examined on the basis of patents or printed publications and, *with respect to subject matter added or deleted in the reexamination proceeding, on the basis of the requirements of 35 U.S.C. 112.*

(b) Claims in an *ex parte* reexamination proceeding will not be permitted to enlarge the scope of the claims of the patent.

(c) *Issues other than those indicated in paragraphs (a) and (b) of this section will not be resolved in a reexamination proceeding....* [emphasis added].

No subject matter has been “added or deleted” in this reexamination proceeding, and, therefore, *no* authority exists to examine “on the basis of the requirements of 35 USC 112,” even if a formal rejection has not been entered. Only new or amended claims are to be examined under § 112. MPEP 2258 (quoting 37 CFR 1.552(a)).<sup>1</sup> By raising § 112 issues and objecting to the specification and to the drawings (see Fact 4 above), the Office has exceeded its limited authority to examine the claims based on “patents and printed publications,” and is clearly *ultra vires*.

Unless the Office Action is revised and reissued, Rembrandt will be prejudiced by its issuance, including its *ultra vires* determination in the Office’s statement that, if permitted to do so, “a rejection under 35 USC 112 1<sup>st</sup> paragraph scope of enablement would be advanced for both claims 2 and 59.” (OA at 6.) By law, the Office has no authority to conduct such an examination of claims 2 and 59 or make such a determination with respect to the claims’ enablement.<sup>2</sup> Such a determination on the record, if left un rebutted, has the potential to

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<sup>1</sup> MPEP 2258 makes clear that such action is not appropriate by providing: “If such issues are raised *by the patent owner or third party requester* during a reexamination proceeding, the existence of such issues will be *noted* by the examiner in the next Office action . . .” *Id.* (quoting 37 CFR 1.552(c) (emphasis added)). In this case, neither the patent owner nor the third party requester raised any § 112 issues, and, even if either party had raised such an issue, the MPEP limits the examiner’s action to *noting* them – not conducting a § 112 examination and drawing conclusions regarding the result of such an examination as was done here.

<sup>2</sup> In this regard, MPEP 2258 clearly provides as follows:

In reexaminations ordered under 35 U.S.C. 304, where new claims are presented or where any part of the disclosure is amended, the claims of the reexamination proceeding, are to be examined for compliance with 35 U.S.C. 112. *Consideration of 35 U.S.C. 112 issues should, however, be limited to the amendatory (e.g., new language) matter.* For example, a claim which is amended or a new claim which is presented containing a limitation not found in the original patent claim should be considered for compliance under 35 U.S.C. 112 only with respect to that limitation. *To go further would be inconsistent with the statute to*

undermine Rembrandt's ability to enforce its patent rights. For this reason alone, the January 24 Office Action should be revised and reissued and the original January 24 Office Action should be stricken from the record. Without such relief, Rembrandt will be further prejudiced by being forced to respond to the Office's position on enablement, and, thus, further resources of the Office and Rembrandt will be spent needlessly on an issue that is the outside the scope of this *ex parte* reexamination.

In addition to the Office's improper examination of the claims under § 112, its objection to the specification "as failing to provide proper antecedent basis for the claimed subject matter" (OA, at 12) and its objection to the drawings which "will not be held in abeyance" (OA at 11-12) are beyond the scope of *ex parte* reexamination. Again, Rembrandt will be prejudiced if it is forced to respond to these objections or risk a final rejection on such grounds. In the absence of amendments to the specification or new or amended claims, there is no basis in law for making such objections during *ex parte* reexamination. As with the Office's § 112 1<sup>st</sup> paragraph determination, if these objections are not rebutted, they have the potential to undermine Rembrandt's ability to enforce its patent rights. For these further reasons, the January 24 Office Action should be reissued without such improper analyses and determinations that go beyond the scope of *ex parte* reexamination, and the original January 24 Office Action should be stricken from the record. Again, further resources of the Office and Rembrandt should not be spent on such issues that are clearly the outside the scope of this *ex parte* reexamination. For these reasons, Rembrandt respectfully requests that Director exercise her supervisory authority to order

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*the extent that 35 U.S.C. 112 issues would be raised as to matter in the original patent claim. [emphasis added].*

Claims 2 and 59 are original, unamended claims.

the revision and reissuance of the pending non-final Office Action to address these issues and further requests that the original Office Action be stricken from the record.

Rembrandt's Petition Should Be Granted Based on The Office's Failure to Identify the Broadest Reasonable Interpretation of Claims 2 and 59

The Office has failed to identify what it considers to be the broadest reasonable interpretation of claims 2 and 59 for the following two reasons. First, the Office Action relies on two different interpretations -- Interpretation A to reject the claims under § 102(e) and on Interpretation B to reject these same claims under § 103. Second, the Office does not indicate whether the claims' preambles are to be given patentable weight, i.e., whether they are to be considered when determining the scope of the claims. *See* Facts 5 and 6 above. There can be *only one* broadest reasonable interpretation for any given claim, and Rembrandt is entitled to know what the Office's interpretation is before a response to the Office Action is required. Thus, Rembrandt respectfully requests the Director to order the revision and reissuance of the pending non-final Office Action to indicate what claim interpretation the Office Action is applying.

Rembrandt's Petition Should Be Granted Based On the Office's Lack of Support and Clear Explanation for its Rejection Under § 102(e)

The Office Action fails to provide support and clear explanation for findings made and conclusions drawn in the Office Action, at least with respect to its anticipation rejection under § 102(e) based on Snell. *See* Fact 7 above. Rembrandt is entitled to know the bases for the Office Action's contention that Snell teaches the multiple claim limitations requiring that, for example, the 'communication device [be] capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave,' claims 2 and 59 (preamble). Other limitations in the claims also require the disclosure of implementation in a master/slave system.

*See, e.g.*, “a transceiver, in the role of master according to the master/slave relationship ...” and “that communication from the master to the slave has reverted to the first modulation” (language in the body of both claims 2 and 59). Again, Rembrandt respectfully requests that Director exercise her supervisory authority to order the revision and reissuance of the pending non-final Office Action to address these deficiencies.

This Petition is timely filed, i.e., within two months of the non-final Office action mailed January 24, 2017. To the extent the Office believes any rules prevent consideration of this petition, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this Petition may be charged to Counsel’s Deposit Account Number 02-2135.

Respectfully submitted,

Date: February 9, 2017

By: /Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932  
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*Attorney for Petitioner  
Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	28314971
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	09-FEB-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:24:56
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Petition.pdf	62689  <small>7dd77308da07220e73d3727001cb2204e9 0786cb</small>	yes	10

<b>Multipart Description/PDF files in .zip description</b>			
<b>Document Description</b>		<b>Start</b>	<b>End</b>
Reexam Certificate of Mailing		10	10
Receipt of Petition in a Reexam		1	9

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	62689
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



**CERTIFICATE OF SERVICE**

It is hereby certified that on this 9th day of February, 2017, the foregoing **PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PATENT OWNER’S REQUEST FOR AN EXTENSION OF TIME  
UNDER 37 C.F.R. § 1.550(c) TO FILE ITS RESPONSE TO THE JANUARY 24, 2017  
OFFICE ACTION PURSUANT TO 35 U.S.C. § 305**

Pursuant to 37 C.F.R. § 1.550(c), Patent Owner Rembrandt respectfully requests an extension of time to file its Patent Owner’s Response in the *Ex Parte* Reexamination of U.S. Patent 8,023,580 (“580 Patent”) to the Office Action mailed January 24, 2017 (“January 24 Office Action”). More specifically, Rembrandt requests an extension of time until the later of one (1) month after the Director decides the Patent Owner’s Petition Requesting The Director To Exercise Her Supervisory Authority Pursuant To 37 C.F.R. § 1.181(a)(1) and/or § 1.182 (filed February 9, 2017) (“February 9 Petition”), or (2) two months after Patent Owner’s Response to the January 24 Office Action is due. Patent Owner’s February 9 Petition asks the Director to exercise her supervisory authority to reissue the January 24 Office Action so that the Office Action (1) is limited to issues within the scope of *ex parte* reexamination, (2) provides a *single*

broadest reasonable claim interpretation (including a statement whether the PTO is giving weight to the claim preambles), and (3) explains the PTO's bases for its § 102(e) anticipation rejection based on Snell. For the reasons given in its February 9 Petition, unless the January 24 Office Action is reissued in response to the issues Rembrandt has raised in its February 9 Petition, Rembrandt will have serious difficulty properly responding to the Office Action due to lack of clarity in the Office Action and will be required to respond to issues that should not have been raised. The Director's grant of Patent Owner's February 9 Petition is necessary to ensure that both Patent Owner and the PTO are not unnecessarily burdened with addressing issues that cannot be properly decided in an ex parte reexamination, or with addressing issues based on more than one broadest reasonable claim construction.

In addition to the need for an extension to permit the Director to decide the outstanding February 9 Petition, Patent Owner Rembrandt requires more time to investigate when inventor Gordon Bremer first conceived of the claimed invention, as several of the cited references are available as prior art only under § 102(e). In particular, U.S. Patent No. 6,075,814 ("Yamano") has a priority date of May 9, 1997, less than one month before the complete claimed invention was memorialized on June 8, 1997 in an internal document at Paradyne where inventor Bremer was employed. See Broadband Tech Note 137 (attachment A). During the Rembrandt v. Samsung district court litigation, inventor Bremer testified that he conceived of the claimed invention much earlier than June 8, 1997. See Bremer trial testimony at 93:19-94:21 (attachment B). Given these facts, Patent Owner has reason to believe the claimed invention was conceived prior to the priority date of at least Yamano. However, to investigate this issue, Patent Owner must examine documents that are almost 20 years old and must probe the memories of those involved in the patenting process at Paradyne and its patent counsel at that time. Patent Owner has begun its investigation of this issue but does not expect to complete its investigation in time

to prepare the needed declarations and the response to the January 24 Office Action by the present due date.

Further, while the January 24 Office Action is only 22 pages, it incorporates 64 pages from Samsung's Request for *Ex Parte* Reexamination of the '580 Patent (excluding the many exhibits cited in those incorporated pages). The Request itself comprises more than the 1,000 pages (including the exhibits). In addition, the history of Samsung's prior challenges to claims 2 and 59 dates back to March 20, 2014. At that time, Samsung filed 4 IPRs against the '580 Patent. Then, due to its unsuccessful challenges of, *inter alia*, claims 2 and 59, Samsung again challenged these claims by filing two additional IPRs on October 21, 2014. Those challenges also failed. Given the magnitude of the '580 Request and the PTO's significant incorporation by reference of Samsung's Request, and the significant number of related documents filed in the multiple IPRs and issued by the Board, Patent Owner needs additional time to file a complete and proper response to the PTO's January 24 Office Action, particularly if Patent Owner's February 9 Petition is denied.

Finally, the corresponding district court litigation (pending since March 2013) has concluded and is on appeal to the Federal Circuit. That appeal has been fully briefed and was argued on January 12, 2017. The Federal Circuit may well issue a decision that either moots the issues now before the PTO in this reexamination or sheds light on how the issues should be addressed by the PTO. Thus, granting Patent Owner's request for an extension of time may eliminate or simplify the work of both the Patent Owner and the PTO with respect to this reexamination.

While Patent Owner recognizes the need to handle reexaminations with "special dispatch," there is no reason to deny Rembrandt a fair opportunity to respond to yet another challenge to the patentability of its claims 2 and 59. Thus, to the extent Samsung has argued that

this matter is particularly urgent (see Request at i-ii), Patent Owner notes that Samsung has offered no reason why it could not have submitted the references submitted in this *ex parte* reexamination as early as March 20, 2014, when Samsung first challenged the patentability of claims 2 and 59. Thus, Samsung's plea for expediting this case more than is called for by the "special dispatch" requirement should be ignored.

#### Statement of Facts Relevant to Petition

In addition to the facts identified above, the following facts are relevant to the PTO's consideration of Patent Owner's request for an extension of time to respond to the January 24 Office Action.

- 1) On September 12, 2016, following its repeated failure to successfully attack claims 2 and 59 of the '580 Patent in multiple IPRs and after the conclusion of a district court action involving the '580 Patent that has been pending since March 2013 and is now awaiting a decision from the Federal Circuit, Samsung requested this *ex parte* reexamination attacking the same claims it was unable to defeat during the IPRs or during the district court litigation ("Samsung's Request").
- 2) On September 30, 2016, Rembrandt filed a petition asking the Director to exercise her discretion under 35 U.S.C. §325(d) to deny the petition based on multiple proceedings attacking the same claims and the lack of any reason why Samsung should have yet another opportunity to attack the same claims. That petition was dismissed on November 28, 2016.
- 3) On September 27, 2016, the Office granted Samsung's Request.
- 4) On January 24, 2017, the Office issued a non-final Office Action ("January 24 Office Action") that is outside the scope of *ex parte* reexamination. In the absence of any amendments, *ex parte* reexamination is limited to reexamination based on patents and printed publications. Thus, the January 24 Office Action exceeds its authority by (a) reexamining

the claims under 35 U.S.C. § 112 and concluding that “a rejection under 35 USC 112 1<sup>st</sup> paragraph scope of enablement would be advanced for both claims 2 and 59,” if such a rejection could be made (OA at 4-6); (b) reexamining and objecting to the ‘580 drawings and demanding that Rembrandt amend the ‘580 Patent by providing substitute drawings and labelling Figure 2 with “a legend such as –Prior Art -- ... to avoid abandonment” (OA at 11); and (c) reexamining and objecting to the specification as “failing to provide proper antecedent basis for the claimed subject matter” (OA at 12 (citing 37 CFR 1.75(d)(1) and MPEP § 608.01)). With respect to the objection to the drawings, the Office Action threatens “abandonment of the application,” if they are not corrected as instructed. (OA at 11). Rembrandt is not aware of any basis in law for such actions during an *ex parte* reexamination.

- 5) The January 24 Office Action relies on two different claim interpretations to reject claims 2 and 59 and thus does not provide the Office’s broadest reasonable interpretation of these claims. (OA at 6-9). Based on “Interpretation B” (OA at 15, lines 21-23), it adopts all of Samsung’s 35 U.S.C. § 103 bases for unpatentability based on combinations of from three to six references by incorporating significant portions of Samsung’s Request (OA at 15-19). Based on “Interpretation A” (OA at 12, lines 25-27), the Office Action enters another ground of rejection under 35 U.S.C. § 102(e) based on Snell (OA at 12-15). There cannot be more than one broadest reasonable construction of the claims, and it is inappropriate to require Rembrandt to address multiple or hypothetical constructions in response to an Office Action.
- 6) Further, also with respect to the Office’s claim interpretation, the Office fails to indicate whether the claims’ preambles are to be given patentable weight. All three of the Office’s § 103(a) rejections in the January 24 Office Action rely heavily on incorporation by reference of the claim charts in Samsung’s Request. (See OA at 15-19 (incorporating Samsung’s

Request at 39-62, 62-88, & 88-102)). In fact, two of the rejections are based solely on the incorporated claim charts, without further comment. (See OA at 19). In addressing the preambles to the rejected claims, the cited portions of Samsung's Request take no position on whether the preambles are a limitation of the claims. (See Samsung's Request at 40, 70, 98 ("To the extent this preamble is considered a limitation of the claim ..."). And, like the Request, the Office takes no position either. As part of the January 24 Office Action and its broadest reasonable interpretation of the claims, the Office is required to take a position on this issue. It is inappropriate to require Rembrandt to respond to the Office Action without knowing how the Office is construing the preamble language in claims 2 and 59.

- 7) The January 24 Office Action also fails to provide supporting citations and clear explanations for at least part of its analyses of claims 2 and 59 under § 102(e) based on Snell. The claimed invention is limited to "a communication device capable of communicating according to a master/slave relationship" (emphasis added). In its § 102(e) rejection, the January 24 Office Action is completely silent as to where in Snell a master/slave relationship is disclosed as claimed. For example, with respect to the anticipation rejection based on Snell (OA at 12-15), there is no support given for the conclusion that Snell's communication device is "capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave" (OA at 13). While the Office Action states "Snell is capable of such communication," no citation to Snell is provided. Furthermore citations to Snell are not provided for the remaining findings and conclusions on the same page (*see id.*), nor for related findings and conclusions that continue on pages 14 to 15.
- 8) On February 9, 2017, Rembrandt filed its Petition Requesting the Director To Exercise Her Supervisory Authority Pursuant to 37 C.F.R. § 1.181(a)(1) and/or § 1.182. In the February 9

Petition, Rembrandt has requested that the Director require that the January 24 Office Action be reissued such that the reissued Office Action addresses the issues identified above.

For the reasons given above, Patent Owner Rembrandt respectfully requests an extension of time to respond to the January 24 Office Action until the later of one (1) month after the Director decides the Patent Owner's February 9 Petition, or (2) two months after Patent Owner's Response to the January 24 Office Action is due.

The petition fee of \$200 set forth in 37 C.F.R. § 1.17(g) for filing a petition for an extension of time under 37 C.F.R. § 1.1550(c) together with any additional fees that may be due with respect to this paper may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

Date: February 27, 2017

By: /Michael V. Battaglia/  
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Facsimile: 202-783-6031

*Attorney for Petitioner  
Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*



**CERTIFICATE OF SERVICE**

It is hereby certified that on this 27<sup>th</sup> day of February, 2017, the foregoing **PATENT OWNER'S REQUEST FOR AN EXTENSION OF TIME UNDER 37 C.F.R. § 1.550 TO FILE ITS RESPONSE PURSUANT TO 35 U.S.C. § 305** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
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Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/

Michael V. Battaglia  
Reg. No. 64,932

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	28471772
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	27-FEB-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	15:54:30
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reexam Request for Extension of Time	RequestEOTwithattachments.pdf	4430427  <small>f2cae3565570e2c720ff92a093a5ddbe358da5a8</small>	no	192

### Warnings:

<b>Information:</b>	
<b>Total Files Size (in bytes):</b>	4430427
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>	

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808
<b>Filing Date:</b>	12-Sep-2016
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Attorney Docket Number:</b>	3277-0114US-RXM1

Filed as Large Entity

**Filing Fees for ex parte reexam**

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PETITION FEE- 37 CFR 1.17(G) (GROUP II)	1463	1	200	200
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>200</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	28472305
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	27-FEB-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:11:24
<b>Application Type:</b>	Reexam (Patent Owner)

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Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$200
RAM confirmation Number	022817INTEFSW00016418022135
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	30710  77dabbc648038556274ac6e5bb306812c7136e7c	no	2

**Warnings:**

**Information:**

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

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6449 7590 03/13/2017
ROTHWELL, FIGG, ERNST & MANBECK, P.C.
607 14th Street, N.W.
SUITE 800
WASHINGTON, DC 20005

Table with 1 column: EXAMINER
GE, YUZHEN

Table with 2 columns: ART UNIT, PAPER NUMBER
3992

Table with 2 columns: MAIL DATE, DELIVERY MODE
03/13/2017 PAPER

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BOSTON, MA 02199-3600

Date: **MAILED**

**MAR 13 2017**

**CENTRAL REEXAMINATION UNIT**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

---

<b>Decision on Petition for Extension of Time in Reexamination</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	90/013,808	8,023,580	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yuzhen Ge	3992	

1. THIS IS A DECISION ON THE PETITION FILED February 27, 2017

2. THIS DECISION IS ISSUED PURSUANT TO:

- A.  37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
- B.  37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
- C.  37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS

Patent owner requests that the period filing a response to the non-final Office action mailed on January 24, 2017 which set a 2 month period for filing a response, be extended by the later of one month after the Director decides Patent Owner's petition under 1.181(a) and/or 1.182 filed February 9, 2017, or in the alternative, two months from the mailing date of the non-final Office action.

Petition fee per 37 CFR §1.17(g):

- i.  Petition includes authorization to debit a deposit account.
- ii.  Petition includes authorization to charge a credit card account.
- iii.  Other \_\_\_\_\_.
- B.  Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
- C.  Petition was timely filed.
- D.  Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)

- A.  Granted or  Granted-in-part for **one (1) month**, because petitioner provided a factual accounting that established sufficient cause. (See 37 CFR 1.550(c) and 37 CFR 1.956).
  - i.  Other/comment: **(See attached)**
- B.  Dismissed because:
  - i.  Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
  - ii.  Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
  - iii.  Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
  - iv.  The statements provided fail to establish sufficient cause to warrant extension of the time for taking action.
  - v.  The petition is moot.

5. CONCLUSION: **The response to the non-final Office Action mailed January 24, 2017 is due April 24, 2017.**

6. Telephone inquiries with regard to this decision should be directed to Stephen Stein at 571-272-1544 in the CRU.

/Stephen J. Stein/  
Supervisory Patent Reexamination Specialist  
AU-3991

The February 27, 2017 petition for an extension of time requests an extension of time to respond to the January 24, 2017 non-final Office action, until the later of one month after the Director decides Patent Owner's petition under 1.181(a) and/or 1.182 filed February 9, 2017, or in the alternative, two months from the mailing date of the non-final Office action.

The petition speaks to the considerations of (1) providing time for the Office to decide a previously filed petition under 1.181/1.182 seeking the Director's supervisory authority to reissue the January 24, 2017 Office action, (2) to provide Patent Owner with additional time to investigate when the inventor of US 8,023,580 first conceived of the claimed invention in view of the fact that several the cited reference are only available as prior art under 35 USC 102(e), (3) the length of the Office Action and (4) in view of the related district court litigation which is on appeal to the CAFC, and which may shed light on the issues in the reexam (See pages 2 and 3 of the petition for extension of time).

These considerations are noted; however, they must be balanced with the statutory requirement of special dispatch under 35 USC 305.

Pursuant to MPEP § 2265 (in-part) "First requests for extensions of these time periods will be granted for sufficient cause, and for a reasonable time specified-usually 1 month. The reasons stated in the request will be evaluated, and the request will be favorably considered where there is a factual accounting of reasonably diligent behavior by all those responsible for preparing a response or comments within the statutory time period. Second or subsequent requests for extensions of time, or requests for more than one month, will be granted only in extraordinary circumstances involved"; e.g., death or incapacitation of the patent owner. (See MPEP § 2265).

With regard to the consideration providing time for the Office to decide a previously filed petition under 1.181/1.182 (consideration 1), 37 CFR 1.181(f) states "[t]he mere filing of a petition will not stay any period for reply that may be running against the application, nor act as a stay of other proceedings".

With regard the remaining considerations presented in the petition (considerations 2-4), the circumstances presented do not rise to the level of "extraordinary circumstances" so as to grant the requested 2 month extension of time.

It is agreed however, that patent owner needs to be given opportunity to complete all aspects of investigation prior to responding to the Office action in an *ex parte* reexamination proceedings.

**Accordingly, the Request for an extension of time is granted-in-part for one (1) additional month.**

**Patent Owner's response to the non-final Office Action mailed January 24, 2017 is due April 24, 2017.**



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EXAMINER
GE, YUZHEN

ART UNIT PAPER NUMBER
3992

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Date: MAILED

MAR 27 2017

CENTRAL REEXAMINATION UNIT

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

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ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
607 14<sup>th</sup> Street, N.W.  
WASHINGTON, DC 20005

For Patent Owner

MAILED

MAR 27 2017

ROPES & GRAY, LLP  
Prudential Tower IPRM Docketing- Floor 43  
800 Boylson Street  
Boston, MA 02199-3600

For 3<sup>rd</sup> Party Requester **CENTRAL REEXAMINATION UNIT**


*Ex Parte* Reexamination Proceeding  
Control No. 90/013,808  
Filed: September 12, 2016  
For: U.S. Patent No. 8,023,580

DECISION *SUA SPONTE*  
VACATING NON FINAL  
OFFICE ACTION

The purpose of this communication is to inform the parties to this *ex parte* reexamination proceeding that the non-final Office action mailed on January 24, 2017 is hereby vacated for the following reason:

A review of the January 24, 2017 Office action indicates that the Office Action includes a discussion of issues outside the scope of *ex parte* reexamination and therefore, the January 24, 2017 Office action does not comply with 37 CFR 1.552. Accordingly, the January 24, 2017 non final Office action is hereby vacated. The Office Action will form no part of the record and will not be available to the public. This decision will be made of record in the reexamination file and the proceeding will be returned to the Examiner in order to take further action. A new Office action will issued in due course.

Any inquiry concerning this communication should be directed to Stephen Stein, Supervisory Patent Reexamination Specialist of the Central Reexamination Unit, at telephone (571) 272-1544.

  
John R. Cottingham,  
Director  
Central Reexamination Unit



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EXAMINER

GE, YUZHEN

ART UNIT PAPER NUMBER

3992

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***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,808.

PATENT NO. 8023580.

ART UNIT 3992.

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Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).



Yuzhen Ge

Primary Examiner

Art Unit: 3992

<b>Office Action in Ex Parte Reexamination</b>	<b>Control No.</b> 90/013,808	<b>Patent Under Reexamination</b> 8023580	
	<b>Examiner</b> Yuzhen Ge	<b>Art Unit</b> 3992	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

- a.  Responsive to the communication(s) filed on \_\_\_\_ .  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_ .
- b.  This action is made FINAL.
- c.  A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c)**. If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 3. <input type="checkbox"/> Interview Summary, PTO-474. |
| 2. <input type="checkbox"/> Information Disclosure Statement, PTO/SB/08.     | 4. <input type="checkbox"/> ____.                       |

**Part II SUMMARY OF ACTION**

- 1a.  Claims 2 and 59 are subject to reexamination.
- 1b.  Claims \_\_\_\_ are not subject to reexamination.
2.  Claims \_\_\_\_ have been canceled in the present reexamination proceeding.
3.  Claims \_\_\_\_ are patentable and/or confirmed.
4.  Claims 2 and 59 are rejected.
5.  Claims \_\_\_\_ are objected to.
6.  The drawings, filed on \_\_\_\_ are acceptable.
7.  The proposed drawing correction, filed on 12 September 2016 has been (7a)  approved (7b)  disapproved.
8.  Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some\* c)  None of the certified copies have  
1  been received.  
2  not been received.  
3  been filed in Application No. \_\_\_\_ .  
4  been filed in reexamination Control No. \_\_\_\_ .  
5  been received by the International Bureau in PCT application No. \_\_\_\_ .
- \* See the attached detailed Office action for a list of the certified copies not received.
9.  Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10.  Other: \_\_\_\_

cc: Requester (if third party requester)

## REEXAMINATION OF U.S. PATENT 8,023,580

### I. ACKNOWLEDGMENTS

On Sep. 12, 2016, a third-party requester (“**Requester**”) filed a request (“**Request**”) for *ex parte* reexamination of claims 2 and 59 of US Patent 8,023,580 (“580 patent”) which issued to  
5 Bremer. The 580 patent was filed on Aug. 19, 2009 with application number 12/543,910 (“910 application”) and issued on Sep. 20, 2011.

On Sep. 27, 2016, the Office mailed an order granting reexamination of claims 2 and 59 of the 580 patent.

10

### II. PRIORITY CLAIMS

Based upon a review and 580 Patent, the Examiner finds that the 580 patent, is a continuation of US Patent Application 11/774,803, filed on Jul. 9, 2007, now patent US 7,675,965, which is continuation of US Patent Application 10/412,878, filed on Apr. 14, 2003, now patent US 7,248,626, which is continuation-in-part of application 09/205,205, filed on Dec.  
15 4, 1998, now patent US 6,614,838. The 09/205,205 application also claims priority to US provisional application 60/067,562, filed on Dec. 5, 1997.

Based upon a review of the 910 application itself, the Examiner finds that the 580 patent does not claim any foreign priority.

Because the effective filing date of the 910 application or the 580 patent is before March  
20 16, 2013, the AIA First Inventor to File (“AIA-FITF”) provisions does not apply. Instead, the earlier ‘First to Invent’ provisions apply.

### III. PRIOR ART

i. U.S. Patent No. 5,982,807, filed on Mar. 17, 1997 and issued on Nov. 9, 1999, to Snell, J. ("Snell").

5 ii. U.S. Patent No. 6,075,814, filed on May 9, 1997 and issued on Jun. 13, 2000, to Yamano, L., et al. ("Yamano")."

iii. Andren, C. et al., "Using the PRISM™ Chip Set for Low Data Rate Applications," Harris Semiconductor Application Note No. AN9614, March 1996 ("Harris AN9614").

10 iv. "HSP3824 Direct Sequence Spread Spectrum Baseband Processor," Harris Semiconductor File No. 4064.4, Oct. 1996 ("Harris 4064.4").

v. Kamerman, A., "Throughput Density Constraints for Wireless LANs Based on DSSS," IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3  
15 ("Kamerman").

vi. Upender et al., "Communication Protocols for Embedded Systems," Embedded Systems Programming, Vol. 7, Issue 11, November 1994. - ("Upender").

### IV. CLAIM INTERPRETATION

20 During examination, claims are given the broadest reasonable interpretation consistent with the specification and limitations in the specification are not read into the claims. See MPEP § 2111 et seq.

Art Unit: 3992

**A. Lexicographic Definitions**

A first exception occurs when there is lexicographic definition in the specification. After careful review of the original specification, the prosecution history, and unless expressly noted otherwise by the Examiner below, the Examiner finds that she is unable to locate any

5 lexicographic definitions (either express or implied) with reasonable clarity, deliberateness, and precision. Because the Examiner is unable to locate any lexicographic definitions with reasonable clarity, deliberateness, and precision, the Examiner concludes that Applicants are not their own lexicographer. See MPEP §2111.01 IV.

**10 B. 35 U.S.C. § 112 6th Paragraph**

A second exception is when a claimed phrase is interpreted in accordance with 35 U.S.C. § 112 6th paragraph. See MPEP § 2181 *et seq.* The statute, 35 U.S.C. § 112, ¶6 states:

15 An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

-- 35 U.S.C. § 112 6th Paragraph.

To invoke 35 U.S.C. § 112 6<sup>th</sup> paragraph, a claimed phrase must be an element in a claim

20 for a combination.

Claims 2 and 59 recite:

1. A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the

25 device comprising:

a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types

Art Unit: 3992

of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

Claim 59 recites:

58. A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, and wherein the transceiver is configured to transmit messages with:

a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used

Art Unit: 3992

for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

5           the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.

10           59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

15           As can be seen above, claim 2 and claim 59 are single means claims, i.e., both claim 2 and claim 59 comprise a single means, a transceiver. Because claim 2 and claim 59 are single means claims and because according to 35 U.S.C. 112 6<sup>th</sup> paragraph, only limitation or element in a claim for a combination may invoke 112 6<sup>th</sup> paragraph, the Examiner concludes that claim 2 and claim 59 do not invoke 35 USC 112 6<sup>th</sup> paragraph.

20

### C. Sources.

Except for either (a) any lexicographic definitions noted in § IV.A of this Office action (if any); or (b), any entire claim phases that *invoke* 35 U.S.C. § 112 6<sup>th</sup> paragraph as noted in § IV.B of this Office action (if any); the Examiner hereby adopts the following interpretations under the  
25   broadest reasonable interpretation standard. In other words, the Examiner has provided the following interpretations simply as *express notice* of how she is interpreting particular terms under the broadest reasonable interpretation standard. Additionally, these interpretations are only a guide to claim terminology since claim terms must be interpreted in context of the

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surrounding claim language. In accordance with *In re Morris*, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997), the Examiner points to these other “sources” to support her interpretation of the claims. Finally, the following list is not intended to be exhaustive in any way:

- 5           1.       **Modulation** -- the process by which some characteristic of a carrier is varied in accordance with a modulation wave (IPR2014-00518, Pap. 47 at p. 7; Request, p. 19).
2.       **Different Types of modulation method**– modulation methods that are incompatible with one another (IPR2015-00518, Pap. 47 at p. 12, lines 18-19, Request, p. 12 and pp. 19-23).
- 10           3.       **Transceiver** -- Short for a combination of transmitter/receiver (Snell, col. 1, lines 34-36).

#### D.     **Product-by-Process Claims**

15           A third exception is for product-by-process claims. Based upon a review of the claims themselves, the Examiner concludes that claims 2 and 59 are product claims.<sup>1</sup>

              Additionally, the Examiner notes that “the PTO and the CCPA acknowledged product-by-process claims as an exception to the general rule requiring claims to define products in terms of structural characteristics.” *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 845, 23 USPQ2d 1481, 1490 (Fed. Cir. 1992) (hereinafter “*Atlantic Thermoplastics v. Faytex I*”).

20           Furthermore, the Federal Circuit “acknowledges that it has in effect recognized . . . product-by-

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<sup>1</sup> “Product claims are claims that are directed to either machines, manufactures, or compositions of matter.” MPEP § 2103 I C.



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process claims as exceptional.” *Atlantic Thermoplastics v. Faytex I*, 970 F.2d at 847, 23 USPQ2d at 1491.

Because of this exceptional status, the Examiner has carefully reviewed claims 2 and 59 and it is the Examiner’s position that the Examined Claims *do not* contain any product-by-process limitations whether in a conventional format or otherwise. If Applicant disagrees with the Examiner, the Examiner respectfully requests Applicant in his or her next response to expressly point out any product-by-process claim(s) and their limitations so that they may be afforded their exceptional status and treated accordingly. Applicant is reminded that “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.” *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).<sup>2</sup> Failure by Applicant in his or her next response to also address this issue in accordance with 37 C.F.R. §1.111(b) or to be non-responsive to this issue entirely will be considered intent by Applicant *not* to recite any product-by-process limitations. Unless expressly noted otherwise by the Examiner, the preceding discussion on product-by-process principles applies to all Examined Claims.

## V. CLAIM REJECTIONS - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

20 A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant

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<sup>2</sup> See also MPEP § 2113.

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for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5

**Claims 2 and 59 are rejected under pre-AIA 35 U.S.C. 102 (e) as being anticipated by Snell.**

10           Regarding claim 1, Snell teaches a communication device (Abstract, Figs. 1-2 and 5-8) capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (the transceiver of Snell is capable of such communication), the device comprising:

15           a transceiver (Fig. 1), in the role of the master according to the master/slave relationship, for **(all the limitations after “for” is intended use and do not further limit the structure of the transceiver, therefore is not given patentable weight)** sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, 20 wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload 25 portion, wherein at least one group of transmission sequences is addressed for an intended

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destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method,

5 wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

10

Regarding claim 58, Snell teaches a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a

transceiver (Fig. 1), in the role of the master according to the master/slave relationship, capable

15 of **(the function below not performed, or is intended use, will not have patentable weight)**

transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method,

wherein the second modulation method is of a different type than the first modulation method,

and wherein the transceiver is configured to transmit messages (Fig. 1, Fig. 3 and col. 6, lines 54-

20 64) with: a first sequence, in the first modulation method, that indicates at least which of the first

modulation method and the second modulation method is used for modulating a second

sequence, wherein, in at least one message, the first sequence indicates an impending change

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from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence (Figs. 1, 3, col. 6, lines 54-64 and associated descriptions).

Regarding claims 2 and 59, Snell teaches the device of claim 1 and claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence (Fig. 1), wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method (**does not further limit the transceiver**, also met by Fig. 3, PLCP preamble and PLCP header is “transmitted in the first modulation method” e.g., BPSK, col. 6, lines 35-36, where the “third sequence,” e.g., “SIGNAL” field in PLCP header, “indicates,” e.g., using “OAh,” the modulation type, e.g., BPSK, used for modulating the MPDU data of the second packet.).

## VI. CLAIM REJECTIONS - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**A. Claims 2 and 59 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Snell in view of Yamano.**

Regarding claim 2, as explained above in Section V, Snell teaches the transceiver as recited claims 2 and 59. To the extent that Patent Owner intends to argue that the intended use  
5 limitations should be given patentable weight, Snell teaches

a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30,  
10 col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1; Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell), the device comprising:

a transceiver (Fig. 1), in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a  
15 second modulation method, wherein the second modulation method is of a different type than the first modulation method (Abstract, col. 1, lines 58-61, col. 2, lines 56-59, col. 2, line 61-col. 3, line 5, col. 6, lines 64-66, col. 7, lines 6-8, Figs. 2, 3, and 5; Harris 4064.4 at 14-16, Harris 4064 is incorporated by reference at col. 5, lines 11-17 of Snell), wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is  
20 structured with at least a first portion and a payload portion (col. 6, lines 35-36, col. 6, lines 64-66 and col. 7, lines 5-14, Fig. 3), wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating

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second information in the payload portion (col. 6, lines 35-36, 52-59 and 64-66 and col. 7, lines 1-2 and 5-14, Fig. 3; Harris 4064.4 at pp. 15-16 and Fig. 10), and

wherein for the at least one group of transmission sequences:

5 the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method (Snell, col. 2, line 61-col. 3, line 5, col. 6, lines 35-36 and 64-66, col. 7, lines 1-2 and 5-14, Figs. 2, 3, and 5, and Harris 4064.4 at 15-16, Fig. 10) and

10 the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence (Snell, col. 2, line 61-col. 3, line 5, col. 6, lines 35-36 and 64-66, col. 7, lines 1-2 and 5-14, Figs. 2, 3, and 5, and Harris 4064.4 at 15-16, Fig. 10).

15 wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method (col. 1, lines 55-57, col. 2, lines 27-30 and 61-63, col. 6, lines 35-36, 52-59 and 64-66, col. 7, lines 1-2 and 5-14, Fig. 3, PLCP preamble and PLCP header is “transmitted in the first modulation method” e.g., BPSK, col. 6, lines 35-36, the data can be modulated according to a method  
20 different from BPSK, then a “third sequence,” with its “SIGNAL” field in PLCP header, “indicates,” e.g., using “OAh,” the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence).

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However Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion.

Yamano discloses transmitting a group of transmission sequences or messages, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.” (Fig. 8, col. 19, 63-64, col. 20, lines 1-7 and 54-59).

Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (see, e.g., Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates (see, e.g., Snell at 2:15-17, 6:52-59; Yamano at 19:54-56). It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A person of ordinary skill in the art would have been motivated and found it obvious to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate.

The combination of Snell and Yamano is also supported by KSR Rationale (C), “Use of known technique to improve similar devices (methods, or products) in the same way” (see MPEP 2143) because the method of including a destination address of Yamano can be used to improve the system of Snell so that the receiving device of Snell can filter out packets which it does not need to demodulate.

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Regarding claim 59, as explained above in Section VII, Snell teaches the transceiver as recited claim 59. To the extent that Patent Owner intends to argue that the intended use limitations should be given patentable weight, Snell teaches

Snell teaches a communication device capable of communicating according to a  
5 master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1, Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell), in the role of the  
10 master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method (Abstract, col. 1, lines 58-61, col. 2, lines 56-59, col. 2, line 61-col. 3, line 5, col. 6, lines 64-66, col. 7, lines 6-8, Figs. 2, 3, and 5; Harris  
15 4064.4 at 14-16, Harris 4064 is incorporated by reference at col. 5, lines 11-17 of Snell), and wherein the transceiver is configured to transmit messages (Fig. 1, Fig. 3 and col. 6, lines 54-64) with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change  
20 from the first modulation method to the second modulation method (col. 6, lines 35-36, 52-59 and 64-66 and col. 7, lines 1-2 and 5-14, Fig. 3; Harris 4064.4 at pp. 15-16 and Fig. 10), and the second sequence, modulated in accordance with the modulation method indicated by the first



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sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence (col. 6, lines 35-36, 52-59 and 64-66 and col. 7, lines 1-2 and 5-14, Fig. 3; Harris 4064.4 at pp. 15-16 and Fig. 10).

5 wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method (col. 1, lines 55-57, col. 2, lines 27-30 and 61-63, col. 6, lines 35-36, 52-59 and 64-66, col. 7, lines 1-2 and 5-14, Fig. 3, PLCP preamble and PLCP header is “transmitted in the first modulation method” e.g., BPSK, col. 6, lines 35-36, the data can be modulated according to a method  
10 different from BPSK, then a “third sequence,” with its “SIGNAL” field in PLCP header, “indicates,” e.g., using “OAh,” the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence.).

However Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence.

15 Yamano discloses transmitting a group of transmission sequences or messages, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.” (Fig. 8, col. 19, 63-64, col. 20, lines 1-7 and 54-59).

Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (see, e.g., Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates (see, e.g., Snell at 2:15-17, 6:52-59; Yamano at 19:54-56). It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A person of ordinary skill in the art

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would have been motivated and found it obvious to use Yamano's teaching of including a destination address in the data packet in implementing Snell's teachings of a communication system for transmitting data packets to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate.

The combination of Snell and Yamano is also supported by KSR Rationale (C), "Use of known technique to improve similar devices (methods, or products) in the same way" (see MPEP 2143) because the method of including a destination address can be used to improve the system of Snell so that the receiving device of Snell can filter out packets which it does not need to demodulate.

**B. Claims 2 and 59 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Snell in view of Yamano further in view Kamerman.**

As explained in Section VI.A above, the Examiner believe Snell in view of Yamano teaches claims 2 and 59 including the limitation wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

To the extent that the Patent Owner disagrees, Kamerman discloses an automatic rate selection scheme for reverting (e.g. falling back) from a "second modulation method" (e.g., QPSK) corresponding to a higher data rate (e.g., 2Mbits/s) to a "first modulation method" (e.g.,

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BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet transmissions, for instance where there is a high load in neighbor cells causing cochannel interference (pp. 6, 11 and 12). Kamerman further teaches:

5           IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol.... An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: after unacknowledged packet transmissions the rate falls back, and after a number (e.g. 10) of successive  
10           correctly acknowledged packet transmissions the bit rate goes up.

- Kamerman at p. 11.

15           At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the access point to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore  
20           the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.

- Kamerman at p. 11.

25           The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference.

30           - Kamerman at p. 12.

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Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard available at that time.

Therefore it was well-known in the art, as demonstrated in the above cited sections of Kamerman, to transmit a data packet where the data is modulated using a second modulation method, such as QPSK (corresponding to a higher data transfer rate), after unacknowledged packet (third sequence) transmissions or after a number (e.g. 10) of successive correctly acknowledged packet transmissions, to next transmit other data packets where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (i.e., to revert to the first modulation method) (Kamerman at 6, 11 and 12).

A person of ordinary skill in the art would have been motivated and found it obvious to use Kamerman's teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell's system for communicating data packets modulated according to different modulation methods to advantageously maximize the data transfer rate and adapt to changing channel conditions (as also taught by Kamerman at 6 and 11-12). In particular, Kamerman expressly teaches that it is beneficial to transmit the data of a first data packet using a second modulation method corresponding to a higher data transfer rate (e.g., QPSK modulation at 2 mbps) during lower load conditions to maximize the data transfer rate during lower load conditions when the connection is more reliable and to next transmit the data of a second data packet using a first modulation method corresponding to a lower data transfer rate (e.g., BPSK modulation at 1 mbps) (i.e., falling back) during higher load

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conditions when a more robust signal is needed due to “mutilation of transmissions by interference.” (Kamermerman at 6 and 11-12).

The combination of Snell and Kamermerman is also supported by KSR Rationale (C), “Use of known technique to improve similar devices (methods, or products) in the same way” (see MPEP 2143) because the method of Kamermerman of reverting from a "second modulation method" corresponding to a higher data rate to a "first modulation method" can be used to improve the system of Snell to advantageously maximize the data transfer rate and adapt to changing channel conditions

## 10 VII. NOTICE RE PATENT OWNER'S CORRESPONDENCE ADDRESS

37 C.F.R. § 1.33(c) states:

(c) All notices, official letters, and other communications for the patent owner or owners in a reexamination or supplemental examination proceeding will be directed to the correspondence address in the patent file.

15 The correspondence address for any pending reexamination proceeding not having the same correspondence address as that of the patent is, by way of this revision to 37 CFR 1.33(c), automatically changed to that of the patent file as of the effective date.

20 This change is effective for any reexamination proceeding which is pending before the Office as of May 16, 2007, including the present reexamination proceeding, and to any reexamination proceeding which is filed after that date.

Parties are to take this change into account when filing papers, and direct communications accordingly.

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In the event the patent owner's correspondence address listed in the papers (record) for the present proceeding is different from the correspondence address of the patent, it is strongly encouraged that the patent owner affirmatively file a Notification of Change of Correspondence Address in the reexamination proceeding and/or the patent (depending on which address patent owner desires), to conform the address of the proceeding with that of the patent and to clarify the record as to which address should be used for correspondence.

Telephone Numbers for reexamination inquiries:

Reexamination (571) 272-7703

Central Reexam Unit (CRU) (571) 272-7705

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### VIII. CONCLUSION

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, after final rejection and 37 CFR 41.33 after appeal, which will be strictly enforced.

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

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Patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '285 patent throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286. The third party requester is similarly apprised of the ability to disclose such

5 proceedings.

**All** correspondence relating to this ex parte reexam proceeding should be directed as follows:

**By U.S. Postal Service Mail to:**

10 Mail Stop Ex Parte Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

15

**By FAX to:**

(571) 273-9900  
Central Reexamination Unit

20 **By hand to:**

Customer Service Window  
Randolph Building  
401 Dulany St.  
Alexandria, VA 22314

25

Registered users of EFS-Web may alternatively submit correspondence via the electronic filing system at <https://efs.uspto.gov/efile/nwportal/efs-registered>

Any inquiry concerning this communication or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

30

Signed:

Application/Control Number: 90/013,808

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/Yuzhen Ge /

Primary Examiner

Central Reexamination Unit 3992

(571) 272-7636

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Conferees:

/Colin LaRose/

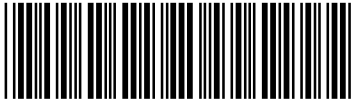
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/Kenneth J. Whittington/

Primary Examiner, Art Unit 3992

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<b>Reexamination</b> 	<b>Application/Control No.</b> 90013808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Certificate Date</b>	<b>Certificate Number</b>

<b>Requester Correspondence Address:</b>	<input type="checkbox"/> <b>Patent Owner</b>	<input checked="" type="checkbox"/> <b>Third Party</b>
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Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., C.A. No.		

<b>COPENDING OFFICE PROCEEDINGS</b>	
<b>TYPE OF PROCEEDING</b>	<b>NUMBER</b>
1. None	

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<b>Search Notes</b>  	<b>Application/Control No.</b> 90013808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Examiner</b> YUZHEN GE	<b>Art Unit</b> 3992

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Search Notes	Date	Examiner
Review prosecution history of the patent file.	12/20/2016	/YG/

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90/013,808 09/12/2016 8023580 3277-0114US-RXM1 2211

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The time period for reply, if any, is set in the attached communication.



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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43  
800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date: APR 03 2017

APR 03 2017

CENTRAL REEXAMINATION UNIT

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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**Decision on Petition(s) Decided  
Under 37 C.F.R. 1.181**

Control No.:90/013,808

1. THIS IS A DECISION ON THE PETITION Filed by:  
 Patent Owner  Third Party Requester on February 9, 2017.

APR 03 2017

and the OPPOSITION PETITION Filed by:  
 Patent Owner  Third Party Requester on \_\_\_\_\_.

CENTRAL REEXAMINATION UNIT

2. THIS DECISION IS ISSUED PURSUANT TO 37 CFR 1.181.

The petition is before the Director of the Central Reexamination Unit for consideration.

3. RELIEF REQUESTED

The relief requested is: to strike from the record the January 24, 2017 Office action and to reissue a new non-final Office action.

4. FORMAL MATTERS

- A.  Petition fee per 37 CFR §1.20(c)(6):  
i.  Petition includes authorization to debit a deposit account.  
ii.  Petition includes authorization to charge a credit card account.  
iii.  Other: \_\_\_\_\_.
- B.  Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
- C.  Petition properly signed.

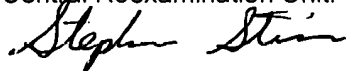
5. The Petition filed February 9, 2017 is **Dismissed** for the following reasons:

- i.  Formal matters (See unchecked box(es) (A, B and/or C) in section 4 above).  
ii.  The petition is premature since there has been no decision by the Office as to whether the submission by  Patent Owner  Third Party Requester is in compliance with Office Rules and procedures.  
iii.  The petition is untimely since the petition was filed more than 2 months from the action by the Office dated \_\_\_\_\_ from which relief is requested (37 CFR 1.181(f)).  
iv.  The petition is **moot** since the ultimate relief requested by petitioner was already granted in the sua sponte decision mailed March 27, 2017 which vacated the January 24, 2017 Office action and the new non-final Office action mailed March 31, 2017.  
v.  Other/comment: \_\_\_\_\_.

6.  The Opposition Petition filed \_\_\_\_\_ by \_\_\_\_\_ is \_\_\_\_\_ in view of the dismissal of the petition(s) for the reasons identified above.

7. **STATUS: A new non-final Office action was mailed to Patent Owner on March 31, 2017.**

Telephone inquiries with regard to this decision should be directed to Stephen J. Stein at 571-272-1544 in the Central Reexamination Unit.



Stephen J. Stein  
[Signature]

Supervisory Patent Reexamination Specialist  
Central Reexamination Unit  
(Title)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 2633  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PATENT OWNER’S REQUEST FOR AN EXTENSION OF TIME  
UNDER 37 C.F.R. § 1.550(c) TO FILE ITS RESPONSE TO THE MARCH 31, 2017  
OFFICE ACTION PURSUANT TO 35 U.S.C. § 305**

Pursuant to 37 C.F.R. § 1.550(c), Patent Owner Rembrandt respectfully requests an extension of time to file its Response in *Ex Parte* Reexamination of U.S. Patent 8,023,580 (“‘580 Patent”) to the Office Action mailed March 31, 2017 (“March 31 Office Action.”) More specifically, Rembrandt requests an extension of time until two months after Patent Owner’s Response to the March 31 Office Action is due. This is Rembrandt’s first request for an extension of time to respond to the March 31 Office Action.

Earlier this week, the U.S. Court of Appeals for Federal Circuit issued an opinion (attached as Exhibit A) involving the ‘580 patent. *Rembrandt Wireless Technologies, LP, v. Samsung Electronics Co., Ltd.*, No. 2016-1729 (Fed. Cir. April 17, 2017). The Federal Circuit’s opinion addresses claim construction issues that are relevant to these reexamination proceedings.

Slip op. 6-9. For example, the Federal Circuit’s opinion found that the prosecution history of the ‘580 patent contains an unambiguous definition of the term “modulation method ... of a different type.” Slip op. at 7 (“Here, the clearest statement in the intrinsic record regarding the meaning of the different types limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not diminish this unambiguous statement in the prosecution history.”).

Based on this unambiguous definition, the Federal Circuit determined that “modulation method ... of a different type” in the claims mean “different families of modulation techniques...,” as defined in the prosecution history. Slip op. at 9. With respect to claim construction, the Federal Circuit’s opinion is at odds with the March 31 Office Action (stating at p. 4 that the Examiner failed to locate any definitions in the prosecution history “with reasonable clarity, deliberateness, and precision”) and the PTAB’s Final Written Decision in IPR2014-00518 (relied on at p.7 of the March 31 Office Action, and finding the applicant’s definition in the prosecution history “at best, ambiguous”)(‘518 IPR, Pap. 47, at 9)(emphasis added).

With respect to obviousness, the Federal Circuit’s opinion analyzed U.S. Patent No. 5,706,428 to Boer et al. (“Boer et al.”) and Upender et al., “Communication Protocols for Embedded Systems” (“Upender”), and found that there was substantial evidence of nonobviousness. Slip op. at 9-14. Boer et al. is extremely similar to U.S. Patent No. 5,982,807 to Snell (“Snell”), which is at issue in this reexamination proceeding. For example, both references propose similar extensions to what became known as the 802.11 standard (or WiFi), namely adding two higher data rates to the 1MB/s and 2MB/s data rates in the standard, and both references use the packet structure defined by the standard, including packet headers with the same fields. See Boer et al. at Abstract, Fig. 4, 3:56-4:24; Snell at Fig. 3, 5:30-53, 6:48-7:14. In

addition, Boer et al. is strikingly similar to the portion of Kamerman, A., “Throughput Density Constraints for Wireless LANs Based on DSSS” (“Kamerman”) at issue in these reexamination proceedings. *Compare* Boer et al. at Fig. 7, 7:11-8:15 *with* Kamerman at 11. This is not surprising, given that Kamerman was a named co-inventor on the Boer et al. patent. Thus, the Federal Circuit’s analysis of Boer et al. is directly relevant to Snell and Kamerman, which are at issue in this reexamination proceeding.

While Patent Owner has been diligently preparing its response to the March 31 Office Action since the time it issued, those efforts occurred without consideration of the Federal Circuit’s recent opinion on the ‘580 patent. At this point, Patent Owner needs additional time to consider the implications of the Federal Circuit’s opinion to the claim construction and obviousness issues raised in these reexamination proceedings, and to revise and rework its positions opposing the rejections in the March 31 Office Action in a manner that is consistent with the findings of the Federal Circuit. Given that the Examiner issued the March 31 Office Action without the benefit of the Federal Circuit’s opinion, Patent Owner’s response to the Office Action will be the first paper in these reexamination proceedings to address this Federal Circuit’s opinion. Granting Patent Owner’s request for an extension of time will permit the Patent Owner to fully analyze the Federal Circuit’s opinion and present its response in a way that sheds light on how issues such as claim construction and obviousness should be addressed by the PTO. Thus, granting Patent Owner’s request for an extension of time may eliminate or simplify the work of both the Patent Owner and the PTO with respect to this reexamination.

While Patent Owner recognizes the need to handle reexaminations with “special dispatch,” there is no reason to deny Patent Owner a fair opportunity to respond to yet another challenge to the patentability of its claims 2 and 59. Thus, to the extent Samsung has argued that



this matter is particularly urgent (see Request at i-ii), Patent Owner notes that Samsung has offered no reason why it could not have submitted the references submitted in this *ex parte* reexamination as early as March 20, 2014, when Samsung first challenged the patentability of claims 2 and 59. Thus, Samsung's plea for expediting this case more than is called for by the "special dispatch" requirement should be ignored.

#### Statement of Facts Relevant to Petition

In addition to the facts identified above, the following facts are relevant to the PTO's consideration of Patent Owner's request for an extension of time to respond to the March 31 Office Action.

- 1) On September 12, 2016, following its repeated failure to successfully attack claims 2 and 59 of the '580 Patent in multiple IPRs and after the conclusion of a district court action involving the '580 Patent that has been pending since March 2013, Samsung requested this *ex parte* reexamination attacking the same claims it was unable to defeat during the IPRs or during the district court litigation ("Samsung's Request").
- 2) On September 30, 2016, Rembrandt filed a petition asking the Director to exercise her discretion under 35 U.S.C. §325(d) to deny the petition based on multiple proceedings attacking the same claims and the lack of any reason why Samsung should have yet another opportunity to attack the same claims. That petition was dismissed on November 28, 2016.
- 3) On September 27, 2016, the Office granted Samsung's Request.
- 4) On January 24, 2017, the Office issued a non-final Office Action ("January 24 Office Action.")
- 5) On February 9, 2017, Rembrandt filed its Petition Requesting the Director To Exercise Her Supervisory Authority Pursuant to 37 C.F.R. § 1.181(a)(1) and/or § 1.182. In the February 9

Petition, Rembrandt has requested that the Director require that the January 24 Office Action be vacated because, *inter alia*, it contained a discussion of matters outside the scope of *ex parte* reexamination.

- 6) On March 27, 2017, the Director issued a letter vacating the January 24, 2017.
- 7) On March 31, 2017, the Office issued a new Office Action, which rejects claims 2 and 59 of the '580 patent as (i) anticipated by Snell, (ii) obvious over Snell and Yamano, and (iii) obvious over Snell, Yamano and Kamerman.
- 8) On April 17, 2017, the Federal Circuit issued an opinion on the '580 patent. The Federal Circuit's opinion addresses claim construction and obviousness issues that are relevant to these reexamination proceedings.

For the reasons discussed above, Patent Owner is requesting a two month extension to provide it time to consider the implications of the Federal Circuit's opinion to the claim construction and obviousness issues raised in these reexamination proceedings, and to revise and rework its positions opposing the rejections in the March 31 Office Action in a manner that is consistent with the findings of the Federal Circuit.

The petition fee of \$200 set forth in 37 C.F.R. § 1.17(g) for filing a petition for an extension of time under 37 C.F.R. § 1.1550(c) together with any additional fees that may be due with respect to this paper may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

Date: April 20, 2017

By: /Michael V. Battaglia/

Michael V. Battaglia, Reg. No. 64,932

**ROTHWELL, FIGG, ERNST  
& MANBECK, P.C.**

607 14<sup>th</sup> Street, N.W., Suite 800

Washington, DC 20005

Phone: 202-783-6040

Facsimile: 202-783-6031

*Attorney for Petitioner*

*Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.

*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 20<sup>th</sup> day of April, 2017, the foregoing **PATENT OWNER'S REQUEST FOR AN EXTENSION OF TIME UNDER 37 C.F.R. § 1.550 TO FILE ITS RESPONSE PURSUANT TO 35 U.S.C. § 305** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808
<b>Filing Date:</b>	12-Sep-2016
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Filer:</b>	Michael Vincent Battaglia/Tamika Miles
<b>Attorney Docket Number:</b>	3277-0114US-RXM1

Filed as Large Entity

**Filing Fees for ex parte reexam**

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PETITION FEE- 37 CFR 1.17(G) (GROUP II)	1463	1	200	200
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>200</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	28978506
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Tamika Miles
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	20-APR-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	12:28:03
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$200
RAM confirmation Number	042017INTEFSW00012469022135
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1		Request_for_Extension_of_Tim e.pdf	131416  9ad56b82c0caa9b199b615788e37082c2437cd0b	yes	7
<b>Multipart Description/PDF files in .zip description</b>					
<b>Document Description</b>			<b>Start</b>	<b>End</b>	
Reexam Request for Extension of Time			1	6	
Reexam Certificate of Service			7	7	
<b>Warnings:</b>					
<b>Information:</b>					
2	Reexam Miscellaneous Incoming Letter	Exhibit_A.pdf	297060  9a2727943bd608d502023f92d97c48a3034bd66a	no	28
<b>Warnings:</b>					
<b>Information:</b>					
3	Fee Worksheet (SB06)	fee-info.pdf	30685  e27bf7f2675589656e397b1c99c47587841161e5	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			459161		



**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**SUBMISSION PURSUANT TO 37 C.F.R. § 1.565(A)**

Pursuant to 37 C.F.R. § 1.565(a), Patent Owner Rembrandt respectfully submits a copy of a Federal Circuit decision (attached as Exhibit A) for prompt entry into the record of the reexamination file. The decision (i.e., *Rembrandt Wireless Technologies, LP, v. Samsung Electronics Co., Ltd.*, No. 2016-1729 (Fed. Cir. April 17, 2017)) involves U.S. Patent No. 8,023,580 and is to the merits of the patent claims. Patent Owner respectfully requests that the examiner consider the content of the decision when the reexamination proceeding comes up for action on the merits. *See* MPEP § 2282.

Any fee required for submission of this Petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: April 20, 2017

By: /Michael V. Battaglia/

Michael V. Battaglia, Reg. No. 64,932

**ROTHWELL, FIGG, ERNST  
& MANBECK, P.C.**

607 14<sup>th</sup> Street, N.W., Suite 800

Washington, DC 20005

Phone: 202-783-6040

Facsimile: 202-783-6031

*Attorney for Petitioner*

*Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.

*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 20<sup>th</sup> day of April, 2017, the foregoing **SUBMISSION PURSUANT TO 37 C.F.R. § 1.565(A)** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/  
\_\_\_\_\_  
Michael V. Battaglia  
Reg. No. 64,932

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

# Exhibit A

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

**NOTICE OF ENTRY OF  
JUDGMENT ACCOMPANIED BY OPINION**

OPINION FILED AND JUDGMENT ENTERED: 04/17/2017

The attached opinion announcing the judgment of the court in your case was filed and judgment was entered on the date indicated above. The mandate will be issued in due course.

Information is also provided about petitions for rehearing and suggestions for rehearing en banc. The questions and answers are those frequently asked and answered by the Clerk's Office.

Each side shall bear its own costs.

Regarding exhibits and visual aids: Your attention is directed Fed. R. App. P. 34(g) which states that the clerk may destroy or dispose of the exhibits if counsel does not reclaim them within a reasonable time after the clerk gives notice to remove them. (The clerk deems a reasonable time to be 15 days from the date the final mandate is issued.)

FOR THE COURT

/s/ Peter R. Marksteiner

Peter R. Marksteiner  
Clerk of Court

16-1729 - Rembrandt Wireless v. Samsung Electronics  
United States District Court for the Eastern District of Texas, Case No. 2:13-cv-00213-JRG

**United States Court of Appeals  
for the Federal Circuit**

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**REMBRANDT WIRELESS TECHNOLOGIES, LP,**  
*Plaintiff-Appellee*

**v.**

**SAMSUNG ELECTRONICS CO., LTD., SAMSUNG  
ELECTRONICS AMERICA, INC., SAMSUNG  
TELECOMMUNICATIONS AMERICA, LLC,**  
*Defendants-Appellants*

**SAMSUNG AUSTIN SEMICONDUCTOR, L.L.C.,  
RESEARCH IN MOTION CORPORATION,  
RESEARCH IN MOTION LTD.,**  
*Defendants*

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2016-1729

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Appeal from the United States District Court for the  
Eastern District of Texas in No. 2:13-cv-00213-JRG,  
Judge J. Rodney Gilstrap.

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Decided: April 17, 2017

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MICHAEL F. HEIM, Heim, Payne & Chorush, LLP,  
Houston, TX, argued for plaintiff-appellee. Also repre-  
sented by ERIC J. ENGER, MIRANDA Y. JONES; DEMETRIOS  
ANAIPAKOS, AMIR H. ALAVI, JAMIE ALAN AYCOCK, ALISA A.

LIPSKI, Ahmad, Zavitsanos, Anaipakos, Alavi & Mensing  
PC, Houston, TX.

JESSE J. JENNER, Ropes & Gray LLP, New York, NY,  
argued for defendants-appellants. Also represented by  
DOUGLAS HALLWARD-DRIEMEIER, Washington, DC;  
GABRIELLE E. HIGGINS, East Palo Alto, CA; BRIAN P.  
BIDDINGER, Quinn Emanuel Urquhart & Sullivan, LLP,  
New York, NY.

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Before TARANTO, CHEN, and STOLL, *Circuit Judges*.

STOLL, *Circuit Judge*.

A jury found that Samsung infringed Rembrandt's asserted patents, which the jury also found not invalid over prior art cited by Samsung. The jury awarded Rembrandt \$15.7 million in damages. After trial, Samsung moved for judgment as a matter of law on obviousness and damages, which the district court denied. Samsung appeals the district court's denial of JMOL, as well as the district court's claim construction order and an order denying Samsung's motion to limit Rembrandt's damages for alleged failure to mark patented articles.

Because we agree with the district court's challenged claim construction and its denial of Samsung's JMOL motions, we affirm those decisions. We disagree, however, with the district court's denial of Samsung's motion based on the marking statute, and we vacate that decision and remand for proceedings consistent with this opinion.

#### BACKGROUND

Rembrandt Wireless Technologies, LP, sued Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC in the United States District Court for Eastern District of Texas on March 15, 2013 for infringement of two patents that



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share a specification: U.S. Patent No. 8,023,580 and a continuation patent, U.S. Patent No. 8,457,228. These patents claim priority to a provisional application filed on December 5, 1997, and relate to “a system and method of communication in which multiple modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been incompatible.” ’580 patent col. 2 ll. 17–20. The patents explain that in the prior art “a transmitter and receiver modem pair can successfully communicate only when the modems are compatible at the physical layer.” *Id.* at col. 1 ll. 27–29. As a result, “communication between modems is generally unsuccessful unless a common modulation method is used.” *Id.* at col. 1 ll. 45–47. Particularly with modems communicating via master/slave protocol, the patents explain that “[i]f one or more of the trib modems [slaves] are not compatible with the modulation method used by the master, those tribs will be unable to receive communications from the master.” *Id.* at col. 1 ll. 58–61. To overcome the challenges described in the prior art, the patents propose using the first section of a transmitted message (the message “header”) to indicate the modulation method being used for the substance of the message (the message “payload”).

Claim 2 of the ’580 patent, which is dependent upon claim 1, is representative:

1. A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

- a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least *two types of modula-*

*tion methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:*

*the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and*

*the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.*

2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after

REMBRANDT WIRELESS v. SAMSUNG ELECTRONICS

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the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

*Id.* at col. 7 l. 53 – col. 8 l. 24 (emphasis added to show dispute). Relevant here, the district court construed “modulation method [] of a different type” as “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, No. 2:13-CV-213-JRG-RSP, 2014 WL 3385125, at \*15 (E.D. Tex. July 10, 2014) (*Claim Construction Order*).

Rembrandt alleged at trial that Samsung devices incorporating the Bluetooth enhanced data rate (“EDR”) standard infringed its patents. After a five-day trial, the jury found that Samsung infringed Rembrandt’s patents, and that the patents were valid over the prior art Samsung presented. The jury awarded Rembrandt \$15.7 million in damages. The district court denied Samsung’s post-trial motions for judgment as a matter of law—on both liability and on damages—and entered final judgment.

Samsung appeals, and we have jurisdiction under 28 U.S.C. § 1295(a)(1).

#### DISCUSSION

Samsung appeals several issues: (1) the district court’s construction of the “different types” limitation; (2) the district court’s denial of JMOL of obviousness; (3) the district court’s denial of Samsung’s *Daubert* motion, motions for a new trial, and motion for JMOL on damages; and (4) the district court’s denial of Samsung’s motion to limit damages based on Rembrandt’s purported failure to mark products embodying the ’580 patent. Samsung

does not appeal the jury's finding of infringement. We address each issue in turn.

### I. Claim Construction

Samsung disputes the district court's construction of "modulation method [] of a different type." The district court construed this limitation as "different families of modulation techniques, such as the FSK [frequency-shift keying] family of modulation methods and the QAM [quadrature amplitude modulation] family of modulation methods." *Claim Construction Order*, 2014 WL 3385125, at \*15. We review claim constructions based solely on the intrinsic record, as here, de novo. *Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1364 (Fed. Cir. 2015) (quoting *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 840–42 (2015)).

The district court arrived at its construction relying on the applicant's characterization of the "different types" term in the prosecution history. During prosecution of the '580 parent patent, the applicant inserted the "different types" limitation into its claims after the examiner had already issued a notice of allowance. In the applicant's contemporaneous remarks to the examiner, he indicated that he inserted the limitation into the independent claims to "more precisely claim the subject-matter." J.A. 2234. The applicant explained:

Applicant has further amended [its] claims . . . with additional recitations to more precisely claim the subject matter. For example, the language of independent claim 1 has been clarified to refer to two *types* of modulation methods, i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.

*Id.*

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Samsung disputes the court's construction, arguing that it improperly affords dispositive weight to a single self-serving statement in the prosecution history made after the examiner had allowed certain claims. Samsung contends that the plain claim language requires only that the different types of modulation methods be "incompatible" with one another. According to Samsung, the claims cover devices that modulate signals using the same family of modulation methods (for example, FSK modulation), but operating with different amplitudes between modems. Samsung asserts that, because modulating using different amplitudes makes the devices incompatible, this arrangement embodies "different types" of modulation.

We disagree with Samsung and adopt the construction entered by the district court. While the specification is the principal source of the meaning of a disputed term, the prosecution history may also be relevant. *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Here, the clearest statement in the intrinsic record regarding the meaning of the "different types" limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung's arguments to the contrary do not diminish this unambiguous statement in the prosecution history.

For example, Samsung avers that we should not give the prosecution history statement definitional weight because it uses the phrase "i.e.," which Samsung argues introduces an exemplary item in a set. A patentee's use of "i.e." in the intrinsic record, however, is often definitional. *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009) ("[U]se of 'i.e.' signals an intent to define the word to which it refers."); see also *Abbott Labs. v. Novopharm Ltd.*, 323 F.3d 1324, 1330 (Fed. Cir. 2003) (holding that a patentee "explicitly defined" a term by using "i.e." followed by an explanatory phrase). Indeed, the term "i.e." is Latin for *id est*, which means "that is."

On a related note in the context of disavowal, we have explained that “[w]hether a statement to the PTO that includes ‘i.e.’ constitutes a clear and unmistakable disavowal of claim scope depends on the context.” *Braintree Labs., Inc. v. Novel Labs., Inc.*, 749 F.3d 1349, 1355 (Fed. Cir. 2014). The context here strongly supports the conclusion that Rembrandt used “i.e.” to define the “different types” limitation because Rembrandt used it to describe to the examiner a new limitation it had inserted to further limit its claims.

Samsung directs us to cases where we have held that “i.e.” was not used to define, particularly in instances where interpreting “i.e.” as definitional would be internally inconsistent, *see Pfizer, Inc. v. Teva Pharm., USA, Inc.*, 429 F.3d 1364, 1373 (Fed. Cir. 2005), or where it would read out preferred embodiments, *see Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1326 (Fed. Cir. 2012). Samsung argues that interpreting the “i.e.” statement as definitional here would create an internal inconsistency with claim 43, which recites that “at least one of said modulation methods implements phase modulation.” Samsung asserts that because claim 43 refers to “at least one” of the methods using phase modulation, more than one of them could use phase modulation, even though under the district court’s construction that would mean they are not in different families.

We are not convinced that there would necessarily be a conflict with claim 43 under the adopted construction. As Rembrandt points out, claim 26—from which claim 43 depends—also uses the “at least” language to describe “at least two different types of modulation methods,” which cuts against Samsung’s inference. In any event, we do not find that this parsing of the claims overcomes the definitional statement the applicant provided in the prosecution history. *See ERBE Elektromedizin GmbH v. Canady Tech. LLC*, 629 F.3d 1278, 1286–87 (Fed. Cir. 2010) (rejecting patent owner’s claim differenti-

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ation argument based on disclaimer in the prosecution history). Nor do we find that the specification is at odds with the prosecution history definition. The specification repeatedly refers to different types of modulation methods, but it does not provide examples of what would constitute different methods or otherwise define this limitation.

Samsung also mentions that in related IPR proceedings, the Patent Trial and Appeal Board adopted the broader construction Samsung argues for here. As Samsung admits, however, this construction does not bind our court. And the Board in IPR proceedings operates under a broader claim construction standard than the federal courts. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142, 2146 (2016). We also note that even after adopting Samsung's construction, the Board refused to deem Rembrandt's patents unpatentable over the prior art, which is ultimately what Samsung seeks under its proposed construction.

We therefore agree with the construction entered by the district court that the term "modulation method [] of a different type" means "different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods." *Claim Construction Order*, 2014 WL 3385125, at \*15.

## II. Obviousness

Samsung argues that even under the district court's construction of "different types," it proved by clear and convincing evidence that Rembrandt's patents are invalid for obviousness under 35 U.S.C. § 103 and that the jury verdict of nonobviousness must be overturned as a matter of law.<sup>1</sup>

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<sup>1</sup> Given the effective filing dates of the '580 and '228 patents' claims, the version of 35 U.S.C. § 103 that applies

We review the district court's post-trial denial of judgment as a matter of law under the law of the regional circuit, here the Fifth Circuit. *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1328 (Fed. Cir. 2008). Fifth Circuit law has us review the denial of JMOL de novo, asking, as the district court did, whether a "reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue." *Cambridge Toxicology Grp. v. Exnicios*, 495 F.3d 169, 179 (5th Cir. 2007) (quoting Fed. R. Civ. P. 50(a)(1)). When a jury returns a general verdict regarding obviousness, a legal question with factual underpinnings, "[w]e first presume that the jury resolved the underlying factual disputes in favor of the verdict winner and leave those presumed findings undisturbed if they are supported by substantial evidence. Then we examine the legal conclusion de novo to see whether it is correct in light of the presumed jury fact findings." *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1334 (Fed. Cir. 2015) (quoting *Jurgens v. McKasy*, 927 F.2d 1552, 1557 (Fed. Cir. 1991)).

To allege obviousness, Samsung presented at trial a prior art combination consisting of U.S. Patent No. 5,706,428 ("Boer") as the primary reference and an article by Bhargav P. Upender and Philip J. Koopman, Jr. ("Upender") as a secondary reference. According to Samsung, the DBPSK and PPM/DQPSK modulation methods discussed in Boer are in "different families," and are therefore different types of modulation methods under the district court's construction. Samsung's expert, Dr. Goodman, testified that, much like the QAM and PSK modulation methods that the district court specifically noted were in different families, Boer's cited modulation

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here is the one in force preceding the changes made by the America Invents Act. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3(n), 125 Stat. 284, 293 (2011).



methods alter different sets of characteristics: PPM/DQPSK alters phase and position, but DBPSK alters only phase.

On the other hand, Rembrandt's infringement expert,<sup>2</sup> Dr. Morrow, testified that, in his experience, modulation methods are in different families if they have "no overlapping characteristics." J.A. 1083, 18:13–24. Rembrandt therefore argued that PPM/DQPSK and DBPSK were not in different families because they both altered phase.

The jury was, of course, free to credit Dr. Morrow's testimony and reject Dr. Goodman's. *MobileMedia Ideas LLC v. Apple Inc.*, 780 F.3d 1159, 1168 (Fed. Cir.) ("[W]hen there is conflicting testimony at trial, and the evidence overall does not make only one finding on the point reasonable, the jury is permitted to make credibility determinations and believe the witness it considers more trustworthy."), *cert. denied*, 136 S. Ct. 270 (2015). Samsung argues, however, that Dr. Morrow's testimony, and Rembrandt's argument based on it, constitute an improper reinterpretation of the court's "different types" construction. Samsung urges that modulation methods can have some overlapping characteristics and still be in different families, as required by the court's construction. Samsung couches this argument as a claim construction

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<sup>2</sup> Rembrandt did not present a validity expert, and Samsung suggests it was improper for Rembrandt to rely on its infringement expert's testimony for issues of validity. We disagree. Dr. Morrow's testimony regarding whether two modulation techniques are in the same or different families is equally applicable to the infringement and validity issues. Samsung does not argue that the testimony was improperly admitted into evidence or that the testimony was admitted only for limited purposes not including use for validity.

issue. We disagree. As the district court correctly noted, any dispute regarding whether particular modulation techniques are in different families is a factual one. “[A] sound claim construction need not always purge every shred of ambiguity,” including potential ambiguity arising from “the words a court uses to construe a claim term.” *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1318 (Fed. Cir. 2016) (citation omitted), *cert. denied*, 137 S. Ct. 640 (2017). “Such an endeavor could proceed ad infinitum.” *Id.*

Contrary to the way Samsung has cast the issue, whether Boer meets the “different types” limitation under the court’s construction is a factual question. Particularly with regard to obviousness, it is a factual question going to the scope and content of the prior art. *See Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966). We review such factual questions underlying obviousness for substantial evidence. *Circuit Check*, 795 F.3d at 1334. Taken with Dr. Morrow’s testimony, the fact that Boer’s DBPSK and PPM/DQPSK modulation methods both alter phase is substantial evidence to support the jury’s presumed fact finding that Boer did not teach the “different types” limitation.

Substantial evidence likewise supports the jury’s presumed finding that there was no motivation to combine Boer with Upender, as Rembrandt had argued. The ’580 and ’228 patents claim a master/slave communication protocol, whereas Boer discloses devices communicating under the CSMA/CA protocol.<sup>3</sup> Samsung had argued that combining Boer with Upender—which discusses and compares several communication protocols, including

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<sup>3</sup> Upender defines CSMA/CA as Carrier Sense Multiple Access with Collision Avoidance.

master/slave<sup>4</sup>—would render Rembrandt’s patents obvious. Rembrandt countered that one of skill in the art would not have been motivated to combine the references because Upende teaches away from substituting Boer’s CSMA/CA approach with master/slave. Specifically, Upende analyzes the tradeoffs between different communication protocols based on various attributes, such as efficiency, robustness, and cost. Upende concludes that CSMA/CA is at least as good—and most often, better—than master/slave in every respect. We conclude that this disclosure provides substantial evidence to support the jury’s presumed finding that one of ordinary skill in the art would not have been motivated to replace the CSMA/CA protocol already in place in Boer with a master/slave arrangement as taught by Upende.

Samsung misses the mark by arguing that we must find a motivation to combine if we agree with it that there is not substantial evidence to support a finding that Upende teaches away from substituting CSMA/CA with master/slave. Whether a reference teaches away is doctrinally distinct from whether there is no motivation to combine prior art references. *See Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1051 n.15 (Fed. Cir. 2016) (en banc) (identifying motivation to combine and teaching away as “two discrete bases” supporting district court’s denial of JMOL); *see also Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1374–75 (Fed. Cir. 2011). Surely a showing that a prior art reference teaches away from a given combination is evidence that one of skill in the art would not have been motivated to make that combination to arrive at the claimed invention. But the absence of a formal teaching away in one reference does

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<sup>4</sup> Upende refers to master/slave as the “polling” protocol, but both parties agree that the two are synonymous for the purposes of this case.

not automatically establish a motivation to combine it with another reference in the same field.

As such, the jury did not need to find that Upender taught away from using master/slave in order to find that there would be no motivation to replace CSMA/CA in Boer with master/slave. Even if Upender “does not teach away, its statements regarding users[] prefer[ences] . . . are relevant to a finding regarding whether a skilled artisan would be motivated to combine” Upender with Boer. *Apple*, 839 F.3d at 1051 n.15. Therefore, because Upender strongly suggests that master/slave is inferior to CSMA/CA, substantial evidence supports the jury’s presumed factual finding that one of skill in the art would not have been motivated to combine Boer with Upender’s teaching of master/slave.

The jury’s presumed findings that Boer does not teach the “different types” limitation and that one of skill in the art would not have been motivated to combine Boer with Upender undermine Samsung’s obviousness challenge against all of the infringed independent claims. Because substantial evidence supports both of these findings, we need not address Samsung’s additional obviousness arguments for the infringed dependent claims. *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (“Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.”). We therefore affirm the district court’s denial of JMOL that the infringed claims are invalid as obvious.

### III. Damages

On appeal, Samsung also challenges the jury’s royalty award of \$15.7 million. Samsung first asserts that the district court erred in resolving certain damages-related evidentiary disputes. Applying Fifth Circuit law, we review these rulings for an abuse of discretion. *iAi Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 852

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(Fed. Cir. 2010) (applying Fifth Circuit law), *aff'd*, 564 U.S. 91 (2011).

First, Samsung argues that the district court should have excluded the testimony of Rembrandt's damages expert, Mr. Weinstein, based on the allegedly flawed methodology he used to calculate his proposed reasonable royalty rate. In an effort to determine the incremental value associated with implementing the infringing EDR functionality, Mr. Weinstein compared the prices of two Bluetooth chips Samsung purchased from Texas Instruments—one with EDR functionality and the other without. After calculating the price premium Samsung had paid to procure the EDR chips as compared to the non-EDR chips, Mr. Weinstein concluded that the reasonable royalty rate would be between 5 and 11 cents per infringing unit, resulting in a total damages range of \$14.5–\$31.9 million.

We see no reversible error in the district court's denial of Samsung's motion to exclude Mr. Weinstein's testimony. Samsung complains that the time periods that Mr. Weinstein chose to compare the two sets of chips were ones where Samsung purchased many more non-EDR chips than EDR chips, making the relative cost of EDR chips artificially high due to mismatched economies of scale. Rembrandt responds that Mr. Weinstein testified in his deposition that the seller of the chips, Texas Instruments, suggested to him that the data from these time periods were most suitable for his purposes. Rembrandt also explains that Mr. Weinstein aptly focused on the earliest periods where significant sales of infringing chips were made because the added value of technology fades with time. We find these explanations plausible, as they show that Mr. Weinstein's royalty calculations were properly "based on the incremental value that the patented invention adds to the end product." *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014). We also note that while Mr. Weinstein compared the chips for

a time period when the non-EDR and EDR chip price differential was on the high end of the spectrum, Samsung was free to cross-examine Mr. Weinstein on this issue and the jury's award of \$15.7 million fell within the low end of Mr. Weinstein's \$14.5–\$31.9 million suggested damages range.

Samsung also takes issue with Mr. Weinstein's attribution of the chips' cost differential solely to the addition of the EDR functionality, which it asserts was not the only technological difference between the two sets of chips. Rembrandt responds that all of the technical expert testimony in the case shows that the major difference between the chips was the incorporation of EDR and that Samsung could have cross-examined Rembrandt's damages expert on this point, but did not. Regardless, Samsung's criticism of Mr. Weinstein's selected benchmark "goes to evidentiary weight, not [its] admissibility." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1319 (Fed. Cir. 2014), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015) (en banc). Ultimately, we do not find that the district court abused its discretion in permitting Mr. Weinstein to use the methodology he adopted.

Mr. Weinstein used a settlement agreement Rembrandt entered into with BlackBerry, which was a defendant in this suit before settling, and a licensing agreement Rembrandt entered into with Zhone Technologies, Inc., to confirm his proposed royalty rate. On appeal, Samsung argues that it was improper for Mr. Weinstein to consider the BlackBerry agreement at all because it is not representative of an arms-length agreement between the parties and, therefore, is inappropriate for use in determining the reasonable royalty rate. We hold that the district court did not abuse its discretion in allowing Mr. Weinstein to discuss the BlackBerry agreement, as our cases allow relevant settlement agreements to be considered in determining a reasonable royalty rate.

*Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1299–1300 (Fed. Cir. 2015). The BlackBerry settlement agreement was relevant here because it contained a license of the very patents Samsung was found to infringe. We are also not convinced by Samsung’s argument that Mr. Weinstein should not have cited the agreement at all because BlackBerry would not agree to a particular per-sale allocation clause Rembrandt wanted to include in the agreement. Even though BlackBerry did not agree to that express term, Mr. Weinstein explained his understanding of the agreement to be that BlackBerry effectively paid Rembrandt a per-sale amount consistent with his proposed royalty rate, he was cross-examined on that point, and the jury was free to consider that testimony.

Samsung also avers that the district court improperly redacted pertinent information from the BlackBerry settlement agreement and the Zhone licensing agreement that would have been necessary for the jury to understand the context of those agreements. Particularly, Samsung asserts that by redacting the agreements, the jury was unable to see how Mr. Weinstein allocated payments made by BlackBerry and Zhone to arrive at his proposed royalty rate. We disagree. It was within the district court’s discretion to redact information from these agreements to prevent exposing confidential business information and to avoid jury confusion, and we will not disrupt that decision as an abuse of discretion.

Finally, Samsung argues that substantial evidence does not support the jury’s damages award of \$15.7 million. Because we have rejected Samsung’s challenges to Mr. Weinstein’s expert presentation on damages, and because the jury’s award fell within the \$14.5–\$31.9 million range he suggested, we hold that substantial evidence supports the jury’s damages award as it relates to all of Samsung’s infringing sales. As will be discussed in the next section, however, we remand this case for the district court to consider in the first instance whether

Samsung is liable for pre-notice damages due to Rembrandt's purported failure to mark certain licensed products. If the district court determines that Samsung is not liable for pre-notice damages, the jury's damages award should be adjusted to strip out the royalties from pre-notice sales. The parties agreed at oral argument that this adjustment involves a pure accounting function that the district court could perform based on the sales data already in the record and without holding a new damages trial. See Oral Arg. at 21:11–22:41 (Samsung), 45:56–46:46 (Rembrandt), <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2016-1729.mp3>.

#### IV. Marking

Samsung argues that the district court erred in refusing to bar Rembrandt's recovery of pre-notice damages based on Rembrandt's failure to mark products covered by a claim Rembrandt later disclaimed.<sup>5</sup> We agree with Samsung that Rembrandt cannot use disclaimer to avoid the marking requirement in 35 U.S.C. § 287, and vacate the judgment of the district court as it relates to marking.

##### A.

Before trial, Samsung moved to limit Rembrandt's potential damages award based on its failure to mark products covered by previously-asserted claim 40 of the '580

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<sup>5</sup> Rembrandt argues as a threshold matter that Samsung did not properly preserve this issue by raising it at trial and, thus, waived it on appeal. We disagree. The district court ruled on this issue as a matter of law before trial, and Samsung continually objected to that legal ruling before the district court. Therefore, the issue has not been waived and is ripe for appeal. See *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 790 F.3d 1329, 1338 (Fed. Cir. 2015), *cert. denied*, 136 S. Ct. 1226 (2016).



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patent. Specifically, Rembrandt had licensed the '580 patent to Zhone Technologies, Inc., and Samsung alleged that Zhone sold unmarked products embodying asserted claim 40 of the '580 patent. The license agreement between Rembrandt and Zhone did not require Zhone to mark its products with the patent number. Pursuant to the patent marking statute, 35 U.S.C. § 287, Samsung sought to limit Rembrandt's damages to those incurred after Samsung received notice of Rembrandt's patents, which, according to Samsung, occurred when Rembrandt filed its complaint. Eight days later, Rembrandt withdrew claim 40 from its infringement allegations and filed a statutory disclaimer pursuant to 35 U.S.C. § 253(a) and 37 C.F.R. § 1.321(a), disclaiming claim 40 in the U.S. Patent and Trademark Office.

The district court denied Samsung's motion to bar Rembrandt's recovery of pre-notice damages based on Rembrandt's disclaimer of claim 40. The court accepted Rembrandt's argument that any prior obligation to mark products embodying claim 40 vanished once it disclaimed claim 40. Adopting the Magistrate Judge's recommendation, the District Judge relied on the proposition that "[u]nder Federal Circuit precedent, a disclaimed patent claim is treated as if it never existed." J.A. 337, 342 (citing *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291 (Fed. Cir. 2011)).

#### B.

The patent marking statute provides that "[p]atentees, and persons making, offering for sale, or selling within the United States any patented article for or under them, or importing any patented article into the United States, may give notice to the public that the same is patented" by marking the article in a method provided by the statute. 35 U.S.C § 287(a). Marking under the statute is permissive, not mandatory. While permissive, there is a consequence if the patent owner chooses not to

mark: “In the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice.” *Id.* “A licensee who makes or sells a patented article does so ‘for or under’ the patentee, thereby limiting the patentee’s damage recovery when the patented article is not marked.” *Amsted Indus. Inc. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 185 (Fed. Cir. 1994) (citing *Devices for Med., Inc. v. Boehl*, 822 F.2d 1062, 1066 (Fed. Cir. 1987)).

Consistent with Supreme Court precedent, we have repeatedly emphasized that the marking statute serves to protect the public. The marking statute protects the public’s ability to exploit an unmarked product’s features without liability for damages until a patentee provides either constructive notice through marking or actual notice. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 162 (1989) (“The notice requirement is designed ‘for the information of the public,’ [and] . . . [t]he public may rely upon the lack of notice in exploiting shapes and designs accessible to all.” (quoting *Wine Ry. Appliance Co. v. Enter. Ry. Equip. Co.*, 297 U.S. 387, 397 (1936))). The essence of “the marking statute is to encourage the patentee to give notice to the public of the patent.” *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1316 (Fed. Cir. 2009) (quoting *Am. Med. Sys., Inc. v. Med. Eng’g Corp.*, 6 F.3d 1523, 1538 (Fed. Cir. 1993)). More specifically, “[t]he marking statute serves three related purposes: 1) helping to avoid innocent infringement; 2) encouraging patentees to give notice to the public that the article is patented; and 3) aiding the public to identify whether an article is patented.” *Nike, Inc. v. Wal-Mart Stores, Inc.*, 138 F.3d 1437, 1443 (Fed. Cir. 1998) (internal citations omitted).

Rembrandt's position, adopted by the district court, effectively provides an end-run around the marking statute and is irreconcilable with the statute's purpose. Allowing Rembrandt to use disclaimer to avoid the consequence of its failure to mark undermines the marking statute's public notice function.

In denying Samsung's motion, the district court relied on the proposition that a disclaimed patent claim is treated as if it "had never existed in the patent," *Guinn v. Kopf*, 96 F.3d 1419, 1422 (Fed. Cir. 1996) (citing *Altoona Publix Theatres, Inc. v. Am. Tri-Ergon Corp.*, 294 U.S. 477, 492 (1935)), and allowed Rembrandt's disclaimer to retroactively excuse its failure to mark. But while we have held that a disclaimer relinquishes the rights of the patent owner, we have never held that the patent owner's disclaimer relinquishes the rights of the public. Indeed, our precedent and that of other courts have not readily extended the effects of disclaimer to situations where others besides the patentee have an interest that relates to the relinquished claims. *See Kearney & Trecker Corp. v. Cincinnati Milacron Inc.*, 562 F.2d 365, 372 (6th Cir. 1977) (recognizing accused infringer's inequitable conduct defense against original patent claims after reissue claims secured through inequitable conduct were disclaimed); *Nat'l Semiconductor Corp. v. Linear Tech. Corp.*, 703 F. Supp. 845, 850 (N.D. Cal. 1988) (allowing antitrust and patent misuse counterclaims premised on disclaimed claims to proceed). *Cf. Guinn*, 96 F.3d at 1422 (holding disclaimer of an allegedly interfering claim did not divest the Board of jurisdiction over interference proceeding). As our marking cases make clear, the marking statute's focus is not only the rights of the patentee, but the rights of the public. *See, e.g., Crown Packaging*, 559 F.3d at 1316; *Nike*, 138 F.3d at 1443; *Bonito Boats*, 489 U.S. at 162. Considering these rights held by the public, we hold that disclaimer cannot serve to retroac-

tively dissolve the § 287(a) marking requirement for a patentee to collect pre-notice damages.

C.

Separate from its disclaimer argument, Rembrandt also argued to the district court that the marking statute should attach on a claim-by-claim, rather than on a patent-by-patent, basis. Applying Rembrandt's claim-by-claim approach in this case, for example, would permit Rembrandt to recover pre-notice damages for Samsung's infringement of claims other than claim 40, which is the only claim that Samsung alleges the unmarked Zhone product embodied. Samsung disagreed with Rembrandt's position at the district court, arguing that the marking statute attaches on a patent-by-patent basis. Put another way, Samsung argued that because Rembrandt's licensee Zhone sold a product embodying one claim of the '580 patent (claim 40), Rembrandt may not recover pre-notice damages for any infringed claim of the patent.

The Magistrate Judge, after deciding Samsung's motion to limit damages on the disclaimer ground, expressly declined to rule on this theory, as did the District Judge. *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, No. 2:13-CV-213-JRG-RSP, 2015 WL 627971, at \*1, \*3 & n.4 (E.D. Tex. Feb. 9, 2015). On appeal, Rembrandt did not present this argument as an alternative basis for affirming the district court's marking decision. Oral Arg. at 45:04–45:55, <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2016-1729.mp3>. Rembrandt did concede, however, that the Zhone product practices claim 40, and thus that question is no longer a “live dispute” in this case. *Id.* at 43:38–45:43.

The patent-by-patent versus claim-by-claim marking dispute between the parties raises a novel legal issue not squarely addressed by our past decisions. Although Rembrandt did not raise this issue on appeal, it has not waived this argument. *See WesternGeco L.L.C. v. ION*

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*Geophysical Corp.*, 837 F.3d 1358, 1364 n.3 (Fed. Cir. 2016) (holding arguments are not waived if they involve issues both not decided by district court and “properly considered moot” until reversal of another district court ruling). But as we have remarked in earlier cases regarding legal issues not addressed by the parties:

It is tempting to explore these unanswered questions, both because they are interesting and because the parties and the trial court might benefit from early answers. But, that is a temptation to be resisted. None are questions directly raised in this appeal, and the parties have not briefed or argued them. We thus leave to the trial court in the first instance the responsibility to address such questions . . . .

*Cardiosom, L.L.C. v. United States*, 656 F.3d 1322, 1329 (Fed. Cir. 2011); *see also In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1321 (Fed. Cir. 2011) (remanding legal issue not briefed on appeal for district court to address on remand). We therefore remand to the district court to address in the first instance whether the patent marking statute should attach on a patent-by-patent or claim-by-claim basis.

#### CONCLUSION

We have considered Samsung’s remaining arguments and find them unpersuasive. Accordingly, we affirm the challenged portion of the district court’s claim construction order and the district court’s denial of Samsung’s JMOL motions. We vacate the district court’s denial of Samsung’s motion to limit damages, and remand that issue for proceedings consistent with this opinion.

**AFFIRMED-IN-PART, VACATED-IN-PART, AND  
REMANDED**

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COSTS

Each party shall bear its own costs.

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT****INFORMATION SHEET****FILING A PETITION FOR A WRIT OF CERTIORARI**

There is no automatic right of appeal to the Supreme Court of the United States from judgments of the Federal Circuit. You must file a petition for a writ of certiorari which the Supreme Court will grant only when there are compelling reasons. (See Rule 10 of the Rules of the Supreme Court of the United States, hereinafter called Rules.)

**Time.** The petition must be filed in the Supreme Court of the United States within 90 days of the entry of judgment in this Court or within 90 days of the denial of a timely petition for rehearing. The judgment is entered on the day the Federal Circuit issues a final decision in your case. [The time does not run from the issuance of the mandate, which has no effect on the right to petition.] (See Rule 13 of the Rules.)

**Fees.** Either the \$300 docketing fee or a motion for leave to proceed in forma pauperis with an affidavit in support thereof must accompany the petition. (See Rules 38 and 39.)

**Authorized Filer.** The petition must be filed by a member of the bar of the Supreme Court of the United States or by the petitioner representing himself or herself.

**Format of a Petition.** The Rules are very specific about the order of the required information and should be consulted before you start drafting your petition. (See Rule 14.) Rules 33 and 34 should be consulted regarding type size and font, paper size, paper weight, margins, page limits, cover, etc.

**Number of Copies.** Forty copies of a petition must be filed unless the petitioner is proceeding in forma pauperis, in which case an original and ten copies of the petition for writ of certiorari and of the motion for leave to proceed in forma pauperis. (See Rule 12.)

**Where to File.** You must file your documents at the Supreme Court.

**Clerk  
Supreme Court of the United States  
1 First Street, NE  
Washington, DC 20543  
(202) 479-3000**

No documents are filed at the Federal Circuit and the Federal Circuit provides no information to the Supreme Court unless the Supreme Court asks for the information.

**Access to the Rules.** The current rules can be found in Title 28 of the United States Code Annotated and other legal publications available in many public libraries.

**UNITED STATES COURT OF APPEALS**  
**FOR THE FEDERAL CIRCUIT**

*Questions and Answers*

**Petitions for Rehearing (Fed. Cir. R. 40)**  
**and**  
**Petitions for Hearing or Rehearing En Banc (Fed. Cir. R. 35)**

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*Q. When is a petition for rehearing appropriate?*

A. Petitions for panel rehearing are rarely successful because they most often fail to articulate sufficient grounds upon which to grant them. For example, a petition for panel rehearing should not be used to reargue issues already briefed and orally argued; if a party failed to persuade the court on an issue in the first instance, a petition for panel rehearing should not be used as an attempt to get a second "bite at the apple." This is especially so when the court has entered a judgment of affirmance without opinion under Fed. Cir. R. 36. Such dispositions are entered if the court determines the judgment of the trial court is based on findings that are not clearly erroneous, the evidence supporting the jury verdict is sufficient, the record supports the trial court's ruling, the decision of the administrative agency warrants affirmance under the appropriate standard of review, or the judgment or decision is without an error of law.

*Q. When is a petition for hearing or rehearing en banc appropriate?*

A. En banc decisions are extraordinary occurrences. To properly answer the question, one must first understand the responsibility of a three-judge merits panel of the court. The panel is charged with deciding individual appeals according to the law of the circuit as established in the court's precedential opinions. While each merits panel is empowered to enter precedential opinions, the ultimate duty of the court en banc is to set forth the law of the Federal Circuit, which merit panels are obliged to follow.

Thus, as a usual prerequisite, a merits panel of the court must have entered a precedential opinion in support of its judgment for a suggestion for rehearing en banc to be appropriate. In addition, the party seeking rehearing en banc must show that either the merits panel has failed to follow identifiable decisions of the U.S. Supreme Court or

Federal Circuit precedential opinions or that the merits panel has followed circuit precedent, which the party seeks to have overruled by the court en banc.

*Q. How frequently are petitions for rehearing granted by merits panels or petitions for rehearing en banc accepted by the court?*

A. The data regarding petitions for rehearing since 1982 shows that merits panels granted some relief in only three percent of the more than 1900 petitions filed. The relief granted usually involved only minor corrections of factual misstatements, rarely resulting in a change of outcome in the decision.

En banc petitions were accepted less frequently, in only 16 of more than 1100 requests. Historically, the court itself initiated en banc review in more than half (21 of 37) of the very few appeals decided en banc since 1982. This sua sponte, en banc review is a by-product of the court's practice of circulating every precedential panel decision to all the judges of the Federal Circuit before it is published. No count is kept of sua sponte, en banc polls that fail to carry enough judges, but one of the reasons that virtually all of the more than 1100 petitions made by the parties since 1982 have been declined is that the court itself has already implicitly approved the precedential opinions before they are filed by the merits panel.

*Q. Is it necessary to have filed either of these petitions before filing a petition for certiorari in the U.S. Supreme Court?*

A. No. All that is needed is a final judgment of the Court of Appeals. As a matter of interest, very few petitions for certiorari from Federal Circuit decisions are granted. Since 1982, the U.S. Supreme Court has granted certiorari in only 31 appeals heard in the Federal Circuit. Almost 1000 petitions for certiorari have been filed in that period.



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	28982484
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Tamika Miles
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	20-APR-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	15:25:36
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Submission_pursuant_to_1_56 5_A.pdf	106899  <small>62decb598184dfb39d8e4ed1f8cddb5b07918038</small>	yes	3

Multipart Description/PDF files in .zip description			
	Document Description	Start	End
	Miscellaneous Incoming Letter	1	2
	Reexam Certificate of Service	3	3

**Warnings:**

**Information:**

2	Reexam Miscellaneous Incoming Letter	Exhibit_A.pdf	297050	no	28
			b09ac7448219d1ba37ac4f24f0e6a28e7980a201		

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	403949
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
90/013,808 09/12/2016 8023580 3277-0114US-RXM1 2211

6449 7590 04/24/2017
ROTHWELL, FIGG, ERNST & MANBECK, P.C.
607 14th Street, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER
GE, YUZHEN

ART UNIT PAPER NUMBER
3992

MAIL DATE DELIVERY MODE
04/24/2017 PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43  
800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date: MAILED

APR 24 '07

CENTRAL REEXAMINATION UNIT

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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<b>Decision on Petition for Extension of Time in Reexamination</b>	Application No.	Applicant(s)	
	90/013,808	8,023,580	
	Examiner	Art Unit	
	Ge, Yuzhen	3993	

1. THIS IS A DECISION ON THE PETITION FILED April 20, 2017.

2. THIS DECISION IS ISSUED PURSUANT TO:

- A.  37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
- B.  37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
- C.  37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS

Patent owner requests that the period for responding to the Office action mailed on March 31, 2017 which set a 2 (two) month period for filing a response thereto, be extended by an additional two (2) months.

- A. Petition fee per 37 CFR §1.17(g):
  - i.  Petition includes authorization to debit a deposit account.
  - ii.  Petition includes authorization to charge a credit card account.
  - iii.  Other \_\_\_\_\_.
- B.  Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
- C.  Petition was timely filed.
- D.  Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)

- A.  Granted or  Granted-in-part for one (1) month, because petitioner provided a factual accounting that established sufficient cause. (See 37 CFR 1.550(c) and 37 CFR 1.956).
  - i.  Other/comment: (See attached)
- B.  Dismissed because:
  - i.  Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
  - ii.  Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
  - iii.  Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
  - iv.  The statements provided fail to establish sufficient cause to warrant extension of the time for taking action (See attached).
  - v.  The petition is moot.
  - vi.  Other/comment: \_\_\_\_\_

5. CONCLUSION: The petition for a 2 (two) month extension of time is granted-in-part for 1 (one) month.

Telephone inquiries with regard to this decision should be directed to Stephen Stein at 571-272-1544 in the CRU.

/Stephen Stein/  
Supervisory Patent Reexamination Specialist  
Central Reexamination Unit

The April 20, 2017 petition for an extension of time requests two (2) additional month to respond to the final Office Action mailed March 31, 2017. The petition speaks to the considerations of providing Patent Owner additional time to “consider the implications of the Federal Circuit’s opinion to the claim construction and obviousness issues raised in these reexamination proceedings, and to revise and rework its positions opposing the rejections in the March 31 Office Action in a manner that is consistent with the findings of the federal circuit.” (See page 3 of Patent Owner’s April 20, 2017 petition for an extension of time).

All these considerations are noted; however, they must be balanced with the statutory requirement of special dispatch under 35 USC 305.

Pursuant to MPEP § 2265 (in-part) “[I]n third party requested *ex parte* reexaminations, a first request for an extension of time will generally be granted if a sufficient cause is shown, and for a reasonable time specified — usually one month. The reasons stated in the request will be evaluated by the CRU SPRS or TC Director, and the requests will be favorably considered where there is a factual accounting of reasonably diligent behavior by all those responsible for preparing a response within the statutory time period. Second or subsequent requests for an extension of time **and requests for an extension of more than one month in third party requested reexaminations will only be granted in extraordinary situations**” e.g., death or incapacitation of the patent owner. (See MPEP § 2265).

The circumstances presented to the petition do not rise to the level of “extraordinary circumstances”.

It is agreed however, that patent owner needs to be given opportunity to complete all aspects of investigation prior to responding to the Office action in an *ex parte* reexamination proceedings.

**Therefore, the Request for an extension of time is hereby granted-in-part for 1 month.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3923  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY  
AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182**

Pursuant to 37 C.F.R. § 1.181(a)(1) and/or § 1.182, Rembrandt Wireless Technologies, LP (“Rembrandt”) respectfully requests the Director to exercise her supervisory authority under Rule 181(a)(1) to terminate the above-referenced *ex parte* reexamination. The non-final Office Action mailed March 31, 2017 (the “March 31 Office Action”) asserts that the claims being reexamined “are single means claims,” March 31 Office Action at 6, which would render them *indefinite* because “single means” cover *every conceivable means*<sup>1</sup> for achieving the desired result. *Ex parte David Chater-Lea*, 2010 WL 665664 (BPAI 2010).

Where the Office’s view is that claims are indefinite, no prior art rejection can be issued (and hence reexamination on the basis of patents and printed publications cannot proceed), as

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<sup>1</sup> *In re Hyatt*, 708 F.2d 712, 714-15 (Fed. Cir. 1983)(“The long-recognized problem with a single means claim is that it covers every conceivable means for achieving the stated result.”).

doing so would necessarily be based on a speculative assumption as to the meaning of the claims. The Office has consistently terminated similar proceedings where it believed that the scope of claims being challenged could not be determined without speculation, and that same course should be followed here.

Alternatively, Rembrandt respectfully requests the Director to exercise her supervisory authority under Rule 181(a)(1) to require revision and reissue of the March 31 Office Action, and that it be stricken from the record. Rembrandt's request is based on the limits and requirements of *ex parte* reexamination and examination generally, which have not been observed in the March 31 Office Action. These limitations and requirements specify: (i) with respect to original claims, that *ex parte* reexamination does not permit examination on § 112 issues, and (ii) that "[t]he first Office action must be sufficiently detailed that the pertinency and manner of applying the cited prior art to the claims in each rejection is clearly set forth therein." MPEP 2262. As explained below, neither of these limitations and requirements is met by the March 31 Office Action.

#### Statement of Facts Relevant to Petition

- 1) On September 12, 2016, following its repeated failure to successfully attack claims 2 and 59 of the '580 Patent in multiple IPRs and after the conclusion of a district court action involving the '580 Patent that has been pending since March 2013, Samsung requested this *ex parte* reexamination attacking the same claims it was unable to defeat during the IPRs or during the district court litigation.
- 2) On September 30, 2016, Rembrandt filed a petition asking the Director to exercise her discretion under 35 U.S.C. § 325(d) to deny the petition based on multiple proceedings



attacking the same claims and lack of any reason why Samsung should have yet another opportunity to attack the same claims. That petition was dismissed on November 28, 2016.

- 3) On September 27, 2016, the Office granted Samsung's Request.
- 4) On January 24, 2017, the Office issued a non-final Office Action ("January 24 Office Action") that was outside the scope of *ex parte* reexamination. In the absence of any amendments, *ex parte* reexamination is limited to reexamination based on patents and printed publications. The January 24 Office Action exceeded its authority by (a) reexamining the claims under 35 U.S.C. § 112 and concluding that "a rejection under 35 USC 112 1<sup>st</sup> paragraph scope of enablement would be advanced for both claims 2 and 59," if such a rejection could be made (January 24 Office Action at 4-6); (b) reexamining and objecting to the '580 drawings and demanding that Rembrandt amend the '580 Patent by providing substitute drawings and labelling Figure 2 with "a legend such as --Prior Art -- ... to avoid abandonment" (January 24 Office Action at 11); and (c) reexamining and objecting to the specification as "failing to provide proper antecedent basis for the claimed subject matter" (January 24 Office Action at 12 (citing 37 CFR 1.75(d)(1) and MPEP § 608.01)).
- 5) On February 9, 2017, Rembrandt filed a Petition Requesting The Director Exercise Her Supervisory Authority Pursuant To 37 C.F.R. 1.181(a)(1) And/Or 1.182. In that Petition, Rembrandt requested that the January 24 Office Action be stricken from the record because, *inter alia*, it exceeded the limits of *ex parte* reexamination.
- 6) On March 27, 2017, the Director of the CRU issued a Decision vacating the January 24 Office Action and striking it from the record, on the ground that it "includes a discussion of issues outside the scope of *ex parte* reexamination." Thereafter, on April 3, 2017,

Rembrandt's February 9 Petition was dismissed as "moot," even though all the issues raised in the petition were not addressed in the Decision vacating the January 24 Office Action.

- 7) On March 31, 2017, the Office issued a further non-final Office Action ("March 31 Office Action"). Like the recently-vacated January 24 Office Action, the March 31 Office Action again includes a discussion of § 112 issues, reasoning that the claims being reexamined are "single means" claims. *See* March 31 Office Action at 6 ("both claim 2 and claim 59 comprise a single means, a transceiver."). As the Board has held, "single means" claims are *indefinite* and therefore not amenable to construction. Where, as here, the Office's view is that claims are indefinite, no prior art rejection can be issued (and hence reexamination on the basis of patents and printed publications cannot proceed), as doing so would necessarily be based on a speculative assumption as to the meaning of the claims.
- 8) Rather than terminating the proceedings on the ground that the claims are not amenable to construction, the March 31 Office Action proffers a further construction of the so-called "single means" element (March 31 Office Action at 7 (construing transceiver as "[s]hort for a combination of transmitter/receiver")) and then applies that further construction in rejecting the claims over the prior art.
- 9) Finally, the March 31 Office Action fails to adequately set forth the manner in which the Office applied the cited prior art to meet the master/slave limitations recited in the challenged claims, in violation of MPEP 2262. Neither the expression "master/slave" nor any variation of this expression appears in any of the references cited by the Office in support of the rejections. Based on the complete lack of any explanation of how these limitations are met by the cited references, it is impossible for Rembrandt to know how to respond to the March 31 Office Action.

The Office Must Terminate These Proceedings Because It Believes That The  
Scope Of The Claims Cannot Be Determined Without Speculation

In *Ex parte David Chater-Lea*, 2010 WL 665664 (BPAI 2010), the Board found that a “single means” claim is indefinite under 35 U.S.C. 112, second paragraph. The Board described a “single means” claim as covering “every achievable means for achieving the desired result,” and, as such, was unable to determine the metes and bounds of the claim.<sup>2</sup> The Board reversed the Examiner’s prior art rejection of the claim, stating that “the prior art rejection must fall, *pro forma*, because it necessarily is based on speculative assumption as to the meaning of the claim.”<sup>3</sup>

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<sup>2</sup> In *Ex parte David Chater-Lea*, the Board found that claim 23 was a single means claim which covered “every conceivable means” for achieving the desired result. Since the specification only disclosed those means known to the inventor, it did not enable everything within the scope of the claim and was subject to an enablement rejection (35 USC 112, first paragraph). In addition, an indefiniteness rejection (35 USC 112, second paragraph) was also made, because, in the case of a single means claim, there is by definition insufficient disclosure in the specification to enable one skilled in the art to “identify the structure, material, or acts for performing the claimed function” of the single means element. The same reasoning was applied in *Ex parte Duvaut et al.*, 2009 WL 1155602 (BPAI 2009), where after finding that the claims were single means claims, they were rejected by the Board under both 35 U.S.C. first paragraph and second paragraph.

<sup>3</sup> See also *Application of Steele et al.*, 305 F.2d 859, 862 (CCPA 1962)(“Our analysis of the claims indicates that considerable speculation as to meaning of the terms employed and assumptions as to the scope of such claims were made by the examiner and the board. We do not think a rejection under 35 U.S.C. § 103 should be based on such speculations and assumptions”); *Kaiser Aluminum v. Patent of Alcoa*, 2015 WL 5440658 (PTAB 2015)(“[T]he claims do not set forth with reasonable precision, a particular area as required in order to satisfy 35 U.S.C. § 112, 2<sup>nd</sup> paragraph. Therefore, claims 1-6, and 8 are rejected under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph. ... Rejections of claims over prior art should not be based on “considerable speculation as to the meaning of the terms employed and assumptions as to the scope of such claims.” ... [W]e reverse, *pro forma*, all the rejections of claims 1-6 and 8 based on prior art”); *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (“If a claim is indefinite, the claim, by definition, cannot be construed.”).

Where, as here, the Office’s view is that claims are “single means” claims<sup>4</sup> and therefore indefinite, reexamination on the basis of patents and printed publications cannot proceed, as doing so would necessarily be based on a speculative assumption as to the meaning of the claims. As the Board explained in *CBS Interactive Inc. et al., v. Helferich Patent Licensing, LLC*, 2016 WL 7494542 (PTAB 2016):

... the Board will not address the question of whether any original claim in an *inter partes* reexamination is indefinite under 35 U.S.C. § 112, ¶ 2.  
... Nonetheless, our reviewing court has also instructed the Board not to speculate as to the meaning of claim terms when reviewing the reasonableness of an obviousness rejection. *See In re Steele*, 305 F.2d at 862 (holding that the Examiner and the Board were wrong in relying on what, at best, were speculative assumptions as to the meaning of the claims and in basing a rejection under 35 U.S.C. § 103 thereon).

For the reasons set forth above, we conclude that undue speculation is required to determine the meaning, as well as the interrelationships among, the claim terms “content provider, “content notification system,” and internet-accessible storage system.” *Because each of the claims on appeal contain these terms, the Examiner could not have reasonably determined the metes and bounds of the claims undergoing reexamination. As such, the Examiner erred in adopting each of the proposed obviousness rejections because doing so necessarily entailed engaging in undue speculation.*

For the reasons set forth above, we do not sustain any of the adopted obviousness rejections of claims 1-78.

*Id.* (emphasis added). *See also Google, Inc. v. Function Media, L.L.C.*, 2012 WL 1891077 (BPAI 2012)(“[I]n the present case, it would be pointless to enter a new ground of rejection on the basis of indefiniteness because such rejections are beyond the scope of reexamination for issued claims ... Yet, without a discernable claim construction, an anticipation or obviousness analysis cannot be performed ... Consequently, we find that proper disposition of this appeal is

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<sup>4</sup> Rembrandt disputes that claims 2 and 59 of the ‘580 patent are “single means” claims, or indefinite. The correct claim construction was reached by the district court in *Rembrandt Wireless Technologies, LP, v. Samsung Electronics Co., Ltd.*, 2014 WL 3385125 (E.D. Texas 2014), and affirmed on appeal by the Federal Circuit in *Rembrandt Wireless Technologies, LP, v. Samsung Electronics Co., Ltd.*, 2017 WL 1370089 (Fed. Cir. 2017).

to reverse the speculative prior art rejections of record ... [W]e understand this disposition leaves a critical issue with the claims unresolved ...”); *Ex parte Webexchange Inc.*, 2014 WL 2946395 (PTAB 2014)(“[R]ejections based on 35 U.S.C. § 112 are beyond the scope of a reexamination proceeding for originally issued patent claims... Thus, we are constrained from presenting a rejection under 35 U.S.C. § 112, second paragraph for these claims. Yet, we reverse the rejections of independent claim 1 and its dependent claims, because applying prior art to such claims would be speculative”); *Superior Communications, Inc., v. Voltstar Technologies, Inc.*, 2014 WL 5474770 (PTAB 2014)(“[R]ejections based on 35 U.S.C. § 112 are beyond the scope of a reexamination proceeding for originally issued patent claims. ... Thus, we are constrained from presenting a rejection under 35 U.S.C. § 112, ¶ 2, for these claims. Accordingly, we do not sustain the Examiner’s decision to reject independent claims 1 and 10, as well as their dependent claims, claims 5-8 and 11-16, because applying prior art to such claims would be unduly speculative.”).

Similarly, in the context of *inter partes* review proceedings, the Board has explained:

If the scope of the claims cannot be determined without speculation, the differences between the claimed invention and the prior art cannot be ascertained. The Board has previously terminated proceedings or denied institution when the scope of the claims being challenged could not be determined without speculation. Several such decisions arise in the context of means-plus-function claim terms for which supporting structure or a specific algorithm for performing the function was not identified in the specification. However, Board decisions have applied the same reasoning to other types of claim terms whose metes and bounds are unclear.

*Globus Medical v. Flexuspine*, IPR2015-01830, paper 11, at 9-10 (PTAB 2016)(citations omitted). In refusing to move forward with a patentability analysis with respect to prior art, the Board in *Globus Medical* reiterated that “prior art grounds of unpatentability must fall, *pro forma*, because they [would be] based on speculative assumption as to the meaning of the

claims.” IPR2015-01830, paper 11, at 15. *See also Samsung Display et al. v. Gold Charm Ltd.*, IPR2015-01452, paper 12, at p.13 (PTAB 2015)(denying institution)( “the prior art grounds of unpatentability must fall, *pro forma*, because they [would be] based on speculative assumption as to the meaning of the claims.” ... Therefore, we decline to institute an *inter partes* review of claims 1–14”); *Apple Inc., v. Immersion Corp.*, IPR2016-01372, paper 7, at 20-21 (PTAB 2017)(denying institution)(“Because we are unable to determine the scope and meaning of claims 12-18 ... we cannot conduct the necessary factual inquiry for determining obviousness ... Accordingly, we decline to institute an *inter partes* review of claims 12-18”); *Facebook, Inc., v. TLI Communications, LLC.*, IPR2014-00566, paper 14, at 13 (PTAB 2014)(denying institution)(“[B]ecause the claims are not amenable to construction, we are unable to conclude that there is a reasonable likelihood that Petitioner would prevail in its challenge ...”); *American Honda Motor Co., v. Signal IP, Inc.*, 2015 WL 5818259 (PTAB 2015)(denying institution)(“In the absence of a sufficient demonstration of the scope of the claimed invention, we do not attempt to apply claims 1 and 7 to the asserted prior art.”).

Simply put, the Office has consistently terminated similar proceedings where it believed that the scope of claims being challenged could not be determined without speculation. Given the Office’s belief that claims 2 and 59 of the ‘580 patent are “single means” claims<sup>5</sup> (which

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<sup>5</sup> In the present case, after finding that the claims being reexamined “are single means claims,” the Examiner goes on to dismiss this finding as inapplicable: “Because claim 2 and claim 59 are single means claims and because according to 35 U.S.C. 112 6th paragraph, only limitation[s] or element[s] in a claim for a combination may invoke 112 6th paragraph, the Examiner concludes that claim 2 and claim 59 do not invoke 35 USC 112 6th paragraph.” March 31 Office Action, at 6. The Examiner’s reasoning that the “single means” finding does not apply because claims 2 and 59 are not directed to combination claims is deeply flawed. As the Federal Circuit stated in *In re Hyatt*, 708 F.2d at 714:

The final paragraph of § 112 saves *combination* claims drafted using means-plus-function format from this problem by providing a construction of that format narrow enough to avoid the problem of undue breadth as forbidden by the first

would render the claims indefinite), the Office should follow that same course here and terminate these proceedings.

Alternatively, the Office Action Should Be Vacated Because It Exceeds  
The Limited Scope Of *Ex Parte* Reexamination

Notwithstanding its characterization of the claims as “single means” claims (which, if correct, would render construction of the claims speculative), the March 31 Office Action goes on to construe the so-called single means element (i.e., the “transceiver”) as “a combination of transmitter/receiver.” *Compare* March 31 Office Action at 6 (“both claim 2 and claim 59 comprise a single means, a transceiver”) *with* March 31 Office Action at 7 (construing transceiver as “[s]hort for a combination of transmitter/receiver.”) The March 31 Office Action then applies the latter construction to reject the claims over the cited references.

In the event that the Office decides to proceed with this reexamination despite its belief that the challenged claims are indefinite, the Office’s assertion that the claims are “single means” claims would be superfluous to the Office’s rejection of the claims over the cited references. In such a case, the Office’s “single means” analysis would represent nothing more than an examination of the claims under 35 U.S.C. § 112, which is prohibited by the reexamination rules, and would be little different from the statement in the now-vacated January 24 Office Action that “a rejection under 35 USC 112 1<sup>st</sup> paragraph scope of enablement would be advanced for both claims 2 and 59,” if such a rejection could be made.

The scope of *ex parte* reexamination is set forth in 37 CFR 1.552:

(a) Claims in an *ex parte* reexamination proceeding will be examined on the basis of patents or printed publications and, *with respect to subject matter added or*

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*paragraph. But no provision saves a claim drafted in means-plus-function format which is not drawn to a combination, i.e., a single means claim.*

*Id.* at 714 (emphasis added).

*deleted in the reexamination proceeding, on the basis of the requirements of 35 U.S.C. 112.*

(b) Claims in an *ex parte* reexamination proceeding will not be permitted to enlarge the scope of the claims of the patent.

(c) *Issues other than those indicated in paragraphs (a) and (b) of this section will not be resolved in a reexamination proceeding ... [emphasis added].*

No subject matter has been “added or deleted” in this reexamination proceeding, and, therefore, *no* authority exists to examine “on the basis of the requirements of 35 USC 112,” even if a formal rejection has not been entered. In a reexamination proceeding, only new or amended claims are to be examined under § 112. MPEP 2258 (quoting 37 CFR 1.552(a)).<sup>6</sup> By raising § 112 issues, the Office has exceeded its limited authority to examine the claims based on “patents and printed publications,” and is clearly *ultra vires*. By law, the Office has no authority to conduct such an examination of claims 2 and 59 or make such a determination with respect to the claims.<sup>7</sup> Such a determination on the record, if left unrebutted, has the potential to undermine Rembrandt’s ability to enforce its patent rights.

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<sup>6</sup> MPEP 2258 makes clear that such action is not appropriate by providing: “If such issues are raised by the patent owner or third party requester during a reexamination proceeding, the existence of such issues will be *noted* by the examiner in the next Office action ...” *Id.* (quoting 37 CFR 1.552(c) (emphasis added)). In this case, neither the patent owner nor the third party requester raised any § 112 issues, and, even if either party had raised such an issue, the MPEP limits the examiner’s action to *noting* them – not conducting a § 112 examination and drawing conclusions regarding the result of such an examination as was done here.

<sup>7</sup> In this regard, MPEP 2258 clearly provides as follows:

In reexaminations ordered under 35 U.S.C. 304, where new claims are presented or where any part of the disclosure is amended, the claims of the reexamination proceeding, are to be examined for compliance with 35 U.S.C. 112. *Consideration of 35 U.S.C. 112 issues should, however, be limited to the amendatory (e.g., new language) matter.* For example, a claim which is amended or a new claim which is presented containing a limitation not found in the original patent claim should be considered for compliance under 35 U.S.C. 112 only with respect to that limitation. *To go further would be inconsistent with the statute to*



For these reasons, the March 31 Office Action (like the now-vacated January 24 Office Action) should be revised and reissued, and the original March 31 Office Action should be stricken from the record. Without such relief, Rembrandt will be further prejudiced by being forced to respond to the Office's superfluous position that the claims are "single means" claims, and thus further resources of the Office and Rembrandt will be spent needlessly on an issue that is the outside the scope of this *ex parte* reexamination.

Alternatively the Office Action Should Be Vacated Because It Fails To Adequately Detail The Pertinency And Manner Of Applying The Cited Art

Claims 2 and 59 (rejected in the March 31 Office Action) require "a master/slave relationship in which a slave communication [or message] from a slave to a master occurs in response to a master communication [or message] from the master to the slave." They also require that the "transceiver" act "in the role of the master according to the master/slave relationship." Considered together, these limitations require "a transceiver in the role of the master according to the master/slave relationship [in which a slave communication or message from a slave to a master occurs in response to a master communication or message from the master to the slave]."

To address these requirements, the Office has drawn the following summary conclusions relying *solely on* Snell's "teaching" of the claimed master/slave relationship to support each of its three grounds of rejection:

- (1) "Snell *teaches* a communication device (Abstract, Figs. 1-2 and 5-8) capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to

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*the extent that 35 U.S.C. 112 issues would be raised as to matter in the original patent claim. [emphasis added].*

Claims 2 and 59 are original, unamended claims.

the slave (the transceiver of Snell is capable of such communication), the device comprising: a transceiver (Fig. 1), in the role of the master according to the master/slave relationship ...” (March 31 Office Action, at 9 (emphasis added)) (without supporting citations for the alleged teaching of the claimed master/slave relationship) (§ 102(e) rejection of claim 2 based on Snell);

(2) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (Fig. 1), in the role of the master according to the master/slave relationship ...” (March 31 Office Action, at 10 (emphasis added)) (again without supporting citations for the alleged teaching of the claimed master/slave relationship) (§ 102(e) rejection of claim 59 based on Snell);

(3) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1; Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell) ...” (Office Action, at 12 (emphasis added)) (citations in quoted text) (§ 103(a) rejection of claim 2 based on Snell in view of Yamano); and

(4) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a

transceiver (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55- 57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1, Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell), in the role of the master according to the master/slave relationship ...” (Office Action, at 15 (emphasis added)) ((citations in quoted text) (§ 103(a) rejection of claim 59 based on Snell in view of Yamano).<sup>8</sup>

Rembrandt has carefully reviewed these summary conclusions and the citations allegedly supporting them and finds no mention of the words “master” or “slave” in any of them, let alone an express teaching of the master/slave relationship as claimed. Based on the complete lack of any explanation how these limitations are met by the cited references, it is impossible for Rembrandt to know how to respond to the March 31 Office Action. Thus, Rembrandt respectfully requests the Office withdraw its rejections for lack of disclosure of the claimed master/slave relationship or issue another non-final Office Action that adequately explains and details its position, as required by MPEP 2262.

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<sup>8</sup> The Office relies on the § 103(a) rejection based on Snell in view of Yamano to support her § 103(a) rejection based on Snell in view of Yamano and Kamerman and thus provides no additional explanation or citations to support her position that the master/slave relationship is disclosed or would have been obvious based on the three references. (See OA, at 17-20).

This Petition is timely filed, i.e., within two months of the non-final Office action mailed March 31, 2017. To the extent the Office believes any rules prevent consideration of this petition, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this Petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: May 2, 2017

By: /Michael V. Battaglia/  
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cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 2nd day of May, 2017, the foregoing **PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
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/Michael V. Battaglia/  
\_\_\_\_\_  
Michael V. Battaglia  
Reg. No. 64,932

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808			
<b>Filing Date:</b>	12-Sep-2016			
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS			
<b>First Named Inventor/Applicant Name:</b>	8023580			
<b>Filer:</b>	Michael Vincent Battaglia/Mihoko Shirai			
<b>Attorney Docket Number:</b>	3277-0114US-RXM1			
Filed as Large Entity				
<b>Filing Fees for ex parte reexam</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Petitions to the Chief	1405	1	400	400
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>400</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	29096816
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Mihoko Shirai
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	02-MAY-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	18:02:07
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$400
RAM confirmation Number	050317INTEFSW18024800
Deposit Account	022135
Authorized User	Mihoko Shirai

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)



37 CFR 1.19 (Document supply fees)  
 37 CFR 1.20 (Post Issuance fees)  
 37 CFR 1.21 (Miscellaneous fees and charges)

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Petition-Rule181-182.pdf	562102 b0ff567cd1f8d33eae0d2b9ab08d47c16242ff7d	yes	15
<b>Multipart Description/PDF files in .zip description</b>					
	<b>Document Description</b>		<b>Start</b>	<b>End</b>	
	Reexam Miscellaneous Incoming Letter		1	14	
	Reexam Certificate of Service		15	15	

**Warnings:**

**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30501 216242c8d35ad82ea867e389a7e8be6eb619b323	no	2
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**Warnings:**

**Information:**

**Total Files Size (in bytes):** 592603

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 90/013,808, inventor ROTHWELL, FIGG, ERNST & MANBECK, P.C., and examiner GE, YUZHEN.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



## UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patents and Trademark Office  
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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43  
800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date: **JUN 22 2017**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).



UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office  
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In re Bremer :  
*Ex Parte* Reexamination Proceeding : DECISION ON PETITION  
Control No. 90/013,808 : UNDER 37 C.F.R. § 1.181  
Filed: September 12, 2016 :  
For: U.S. Patent No.: 8,023,580 B2 :

This is a decision on a petition filed by Patent Owner, entitled "PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182." (hereinafter "May 2, 2017 petition" or "instant petition").

The May 2, 2017 petition requests that the Office terminate this proceeding and/or vacate and/or revise the non-final office action of March 31, 2017.

The petition is before the Director of the Central Reexamination Unit (CRU).

### REVIEW OF RELEVANT FACTS

1. On September 20, 2011, U.S. Patent No. 8,023,580 (the '580 patent) issued to Gordon F. Bremer.
2. On September 12, 2016, the third party requester filed a request for *ex parte* reexamination of the '580 patent, requesting reexamination of claims 2 and 59. The reexamination proceeding was assigned control no. 90/013,808 and was given a filing date of September 12, 2016.
3. On September 27, 2016, reexamination of claims 2 and 59 of the '580 patent was ordered in this proceeding.
4. On September 30, 2016, Patent Owner filed a petition under 37 C.F.R. § 1.182 requesting that this proceeding be terminated.
5. On November 28, 2016, the Office dismissed Patent Owner's petition under 37 C.F.R. § 1.182 requesting that this proceeding be terminated.
6. On January 24, 2017, the Office issued a non-final office action.
7. On February 9, 2017, Patent Owner filed a petition under 37 C.F.R. § 1.181 requesting that the January 24, 2017 office action be stricken from the record.
8. On March 27, 2017, the Office mailed a *sua sponte* decision which vacated the January 24, 2017 office action.
9. On March 31, 2017, the new office action mailed.
10. On April 3, 2017, Patent Owner's February 9, 2017 petition under 37 C.F.R. § 1.181 was dismissed as moot because the relief requested was already granted in the *sua sponte* decision which vacated the January 24, 2017 office action.
11. The instant petition requests that the Office terminate this proceeding and/or vacate and/or revise the non-final office action of March 31, 2017.

## APPLICABLE REGULATIONS

**37 C.F.R. § 1.552** Scope of reexamination in *ex parte* reexamination proceedings.

(a) Claims in an *ex parte* reexamination proceeding will be examined on the basis of patents or printed publications and, with respect to subject matter added or deleted in the reexamination proceeding, on the basis of the requirements of 35 U.S.C. 112.

**37 C.F.R. § 1.181** Petition to the Director.

(c) When a petition is taken from an action or requirement of an examiner in the *ex parte* prosecution of an application, or in the *ex parte* or *inter partes* prosecution of a reexamination proceeding, it may be required that there have been a proper request for reconsideration (§ 1.111) and a repeated action by the examiner. The examiner may be directed by the Director to furnish a written statement, within a specified time, setting forth the reasons for his or her decision upon the matters averred in the petition, supplying a copy to the petitioner.

**37 C.F.R. § 41.31** Appeal to Board.

(c) An appeal, when taken, is presumed to be taken from the rejection of all claims under rejection unless cancelled by an amendment filed by the applicant and entered by the Office. Questions relating to matters not affecting the merits of the invention may be required to be settled before an appeal can be considered.

## APPLICABLE PROCEDURES

### MPEP 2258 Scope of *Ex Parte* Reexamination [R-07.2015]

#### II. COMPLIANCE WITH 35 U.S.C. 112

In reexaminations ordered under 35 U.S.C. 304, where new claims are presented or where any part of the disclosure is amended, the claims of the reexamination proceeding, are to be examined for compliance with 35 U.S.C. 112. Consideration of 35 U.S.C. 112 issues should, however, be limited to the amendatory (e.g., new language) matter. For example, a claim which is amended or a new claim which is presented containing a limitation not found in the original patent claim should be considered for compliance under 35 U.S.C. 112 only with respect to that limitation. To go further would be inconsistent with the statute to the extent that 35 U.S.C. 112 issues would be raised as to matter in the original patent claim. Thus, a term in a patent claim which the examiner might deem to be too broad cannot be considered as too broad in a new or amended claim *unless* the amendatory matter in the new or amended claim creates the issue. If a limitation that appears in an existing patent claim also appears in a claim newly presented in a reexamination proceeding, that limitation cannot be examined as to 35 U.S.C. 112. If a dependent claim is rewritten as an independent claim in a reexamination proceeding, that independent claim cannot be examined as to 35 U.S.C. 112, unless the nature of the rewriting raises a new question (e.g., by newly providing a lack of claim antecedent for a term in the claim). However, a specific determination regarding whether the claimed invention (including original patent claims) is entitled to a particular priority or benefit date is permitted. See *In re NTP, Inc.*, 654 F.3d 1268, 99 USPQ2d 1500 (Fed. Cir. 2011) (holding that the USPTO is not prohibited from performing a 35 U.S.C. 112 written description priority analysis during reexamination).

### MPEP 2173.06 Practice Compact Prosecution [R-07.2015]

#### I. INTERPRET THE CLAIM AND APPLY ART WITH AN EXPLANATION OF HOW AN INDEFINITE TERM IS INTERPRETED

The goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the chance to provide evidence of patentability and otherwise reply completely at the earliest opportunity. See MPEP § 706. Under the principles of compact prosecution, the examiner should review each claim for compliance with every statutory requirement for patentability in the initial review of the application and identify all of the applicable grounds of rejection in the first Office action to avoid unnecessary delays in the prosecution of the application. See 37 CFR 1.104(a)(1) ("On taking up an application for examination or a patent in a reexamination proceeding, the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention. The examination shall be complete with respect both to compliance of the application . . . with the applicable statutes and rules and to the patentability of the invention as claimed, as well as with respect to matters of form, unless otherwise indicated.").

Thus, when the examiner determines that a claim term or phrase renders the claim indefinite, the examiner should make a rejection based on indefiniteness under 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph, as well as a rejection(s) in view of the prior art under 35 U.S.C. 102 or 103 that renders the prior art applicable based on the examiner's interpretation of the claim. See *In re Packard*, 751 F.3d 1307, 1312 (Fed. Cir. 2014) (stating that the *prima facie* case is appropriately used for making an indefiniteness rejection). When making a rejection over prior art in these circumstances, it is important that the examiner state on the record how the claim term or phrase is being interpreted with respect to the prior art applied in the rejection. By rejecting each claim on all reasonable grounds available, the examiner can avoid piecemeal examination. See MPEP § 707.07(g) ("Piecemeal examination should be avoided as much as possible. The examiner ordinarily should reject each claim on all valid grounds available . . .").

## II. PRIOR ART REJECTION OF CLAIM REJECTED AS INDEFINITE

All words in a claim must be considered in judging the patentability of a claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). The fact that terms may be indefinite does not make the claim obvious over the prior art. When the terms of a claim are considered to be indefinite, at least two approaches to the examination of an indefinite claim relative to the prior art are possible.

First, where the degree of uncertainty is not great, and where the claim is subject to more than one interpretation and at least one interpretation would render the claim unpatentable over the prior art, an appropriate course of action would be for the examiner to enter two rejections: (A) a rejection based on indefiniteness under 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph; and (B) a rejection over the prior art based on the interpretation of the claims which renders the prior art applicable. See, e.g., *Ex parte Ionescu*, 222 USPQ 537 (Bd. App. 1984). When making a rejection over prior art in these circumstances, it is important for the examiner to point out how the claim is being interpreted. Second, where there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of a claim, it would not be proper to reject such a claim on the basis of prior art. As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims.

The first approach is recommended from an examination standpoint because it avoids piecemeal examination in the event that the examiner's 35 U.S.C. 112, second paragraph rejection is not affirmed, and may give applicant a better appreciation for relevant prior art if the claims are redrafted to avoid the 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph rejection.



### DECISION

In the instant petition, Patent Owner requests that the Office invoke supervisory review to terminate this proceeding and/or vacate and/or revise the non-final office action of March 31, 2017.

Patent Owner asserts that the examiner abused her discretion, and did not follow 37 C.F.R. § 1.552, such that the outstanding non-final office action allegedly exceeds the scope of reexamination in *ex parte* reexamination proceedings.

In particular, Patent Owner asserts that the Office action's characterization of the claims as part of the action's discussion as to why the claims are properly interpreted under the broadest reasonable interpretation standard as opposed to 35 U.S.C 112, sixth paragraph, renders the construction of the claims as speculative and indefinite.

A review of the March 31, 2017 Office Action indicates that the examiner did not identify the claims as indefinite or indicate that the construction of the claims was speculative. Rather, the examiner made a 35 U.S.C. § 112, sixth paragraph analysis with respect to certain claimed element(s), which is required under MPEP 2173.06 I, per the Office's longstanding principles of compact prosecution.

The examiner also followed MPEP 2258, which states, in part:

“For example, a claim which is amended or a new claim which is presented containing a limitation not found in the original patent claim should be considered for compliance under 35 U.S.C. 112 only with respect to that limitation. To go further would be inconsistent with the statute to the extent that 35 U.S.C. 112 issues would be raised as to matter in the original patent claim.” (emphasis added)

No 35 U.S.C. 112 issue was raised as no 35 U.S.C. 112 rejection was made anywhere in the March 31, 2017 Office action. Indeed, the examiner actually found that the claims were compliant with 35 U.S.C. 112.

Patent Owner alternatively seems to suggest that based on the claim construction in the Office action, the claims would be so insolubly ambiguous that the examiner could not have, and should not have, made any art rejection(s), per MPEP 2173.06:

“Second, where there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of a claim, it would not be proper to reject such a claim on the basis of prior art. As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims.” (emphasis added)

However, as stated above, the Office action in no way indicates that the claims are ambiguous or that the interpretation of the claims is merely speculative. Rather, the Office action explicitly applies the broadest reasonable interpretation standard to interpret the claims.

A demand for a Notice of Intent to Issue a Reexamination Certificate (NIRC) is not the subject of a petition. To the extent that Patent Owner affirmatively and clearly represents, in its response to the outstanding non-final rejection, that the claims are so insolubly ambiguous that the examiner could not have, and should not have, made any art rejection(s), a NIRC might be appropriate, at that time.

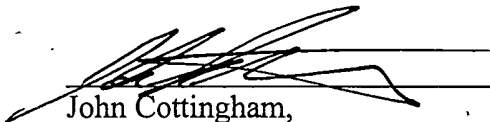
Turning to Patent Owner's remarks on whether or not the claims being reexamined are single means claims, and/or if the examiner properly established a *prima facie* case of obviousness, such issue(s) are not petitionable. First, per 37 C.F.R. § 1.181(c), a proper request for reconsideration is required, and that initially would be a proper and complete reply by Patent Owner to the outstanding non-final office action. Moreover, per 37 C.F.R. § 41.3(c), claim construction is an appealable, rather than a petitionable matter, because it impacts the merits of the invention, *c.f. Ex parte TayMac Corporation* (BPAI Appeal 2011-010682, Reexamination Control 90/008,823).

For the reasons set forth above, the examiner followed all applicable rules, regulations and procedures, and did not abuse her discretion in her decision to make a 35 U.S.C. § 112, sixth paragraph analysis with respect to certain claimed element(s).

Accordingly, Patent Owner's May 2, 2017 petition is dismissed.

### CONCLUSION

1. Patent Owner's May 2, 2017 petition to invoke supervisory review, to terminate this proceeding and/or vacate and/or revise the non-final office action of March 31, 2017, is **dismissed** for the reasons discussed above.
2. Telephone inquiries related to this decision should be directed to Michael Fuelling, Supervisory Patent Reexamination Specialist, at (571) 270-1367.

  
John Cottingham,  
Director, Central Reexamination Unit

# **EXHIBIT A**

## Timeline of Rembrandt Litigation, IPRs and Reexaminations

### **District Court Litigation:**

**March 15, 2013:** Rembrandt sued Samsung for infringement of the '580 Patent. *Rembrandt Wireless Tech., LP v. Samsung Elect. Co. Ltd.*, No. 2:13-cv-00213 (E.D. Tex. 2013).

**June 5, 2013:** Rembrandt filed an Amended Complaint alleging infringement of the '228 Patent.

**July 10, 2014:** The district court judge issued his claim construction memorandum and order.

**February 9-13, 2015:** *Rembrandt Wireless Tech. v. Samsung Elect. Co.* was tried before a jury. In the case, Rembrandt asserted claims 2 and 59 of the '580 Patent and claim 21 of the '228 Patent. On February 13, 2015, the jury rendered its verdict finding that all asserted claims were infringed and had not been proven invalid.

**February 17, 2016:** The district court denied Samsung's motion for JMOL (liability issues). The district court then severed the issue of post-trial relief and assigned case no. 2:16-cv-00170 to that severed issue.

**April 17, 2017:** The Federal Circuit affirmed the district court's claim construction in the *Rembrandt Wireless Tech. v. Samsung Elect. Co.* case and affirmed the jury's determination that claims 2 and 59 of the '580 Patent and claim 21 of the '228 Patent are not invalid. Samsung did not challenge the jury's infringement findings on appeal. The case was remanded on an issue of damages. *Rembrandt Wireless Techs., LP v. Samsung Elect. Co. Ltd.*, No. 16-1729 (Fed. Cir. 2016).

**June 22, 2017:** The Federal Circuit denied Samsung's petitions for panel rehearing and rehearing *en banc*.

### ***Inter Partes* Review Proceedings:**

**March 20, 2014:** Samsung filed 4 IPRs against the '580 Patent, IPR2014-00514, -00515, -00518, -00519.

In IPR2014-00514, Samsung asserted that claims 1, 2, 4, 5, 10, 13, 19-22, 49, 52-54, 57-59, 61, 62, 66, 70, and 76-79 of the '580 Patent were unpatentable under § 102(b)/103 based on a draft version of the 802.11 standard (the "Draft Standard") and under § 103(a) based on the Draft Standard and U.S. 5,706,428 ("Boer"). On September 9, 2014, the PTAB denied the petition because Samsung did not establish that the Draft Standard was a printed publication, and the

“Petition fails to demonstrate a reasonable likelihood of prevailing on the grounds that the challenged claims are anticipated by, or obvious over, Draft Standard or obvious over Draft Standard and Boer.” On October 24, 2014, the PTAB denied Samsung’s Rehearing Request.

In IPR2014-00515, Samsung asserted that claims 23, 25, 29, 30, 32, 34, 38, 40, 41, 43, 44, and 47 of the ‘580 Patent were anticipated by or obvious in view of the Draft Standard. On September 9, 2014, the PTAB denied the petition because Samsung did not establish that the Draft Standard was a printed publication. On October 24, 2014, the PTAB denied Samsung’s Rehearing Request.

In IPR2014-00518, Samsung asserted that claims 1, 2, 4, 5, 10, 13, 19-22, 49, 52-54, 57-59, 61, 62, 66, 70, and 76-79 of the ‘580 Patent were unpatentable under 35 U.S.C. § 103(a) over Admitted Prior Art (“APA”) and Boer (also in view of Upender). On September 23, 2014, the PTAB instituted the IPR to review claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79 but did *not* institute review of claims 2, 19, 49, 52, 53, and 59. With respect to claims 2, 49, and 59, the PTAB was “not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge.” On September 17, 2015, in its final decision, the PTAB concluded that claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79 were unpatentable under § 103(a) over APA and Boer (combination motivated by Upender).

In IPR2014-00519, Samsung asserted that claims 23, 25, 30, 32, 34, 40, 41, 43, and 44 of the ‘580 Patent were unpatentable under § 102(e) based on Boer and that claims 29, 38, and 47 were unpatentable under § 103(a) based on Boer and APA (also in view of Upender). On September 23, 2014, the PTAB instituted the IPR to review claims 32, 34, 38, 40, 43, 44, and 47 but *not* claims 23, 25, 29, 30, and 41 because Samsung “ha[d] not shown a reasonable likelihood that it would prevail in demonstrating” that those claims are unpatentable on any ground.” On September 17, 2015, in its final decision, the PTAB terminated the trial with respect to claims 32, 34, 40, 43, and 44 (disclaimed) and concluded that claims 38 and 47 of the ‘580 Patent were unpatentable over APA and Boer (combination motivated by Upender).

**June 4, 2014:** Samsung files 6 IPRs against the ‘228 Patent, IPR2014-00889, 00890, 00891, 00892, 00893, 00895

In IPR2014-00889, Samsung asserted that claims 1-3, 5, 10, and 11-21 of the ‘228 Patent were unpatentable based on the Draft Standard, Boer, and U.S. 5,537,398 (“Siwiak”). On December 10, 2014, the PTAB denied the petition because Samsung did not establish that the Draft Standard was a printed publication and thus had not shown a reasonable likelihood of prevailing on the grounds asserted.

In IPR2014-00890, Samsung asserted that claims 22, 23, and 25 of the ‘228 Patent were unpatentable based on the Draft Standard and Boer. On December 10, 2014, the PTAB denied

Samsung's petition because Samsung failed to establish that the Draft Standard was a "printed publication" and, thus, had not shown a reasonable likelihood of prevailing on the grounds asserted based on the Draft Standard alone or in combination with Boer.

In IPR2014-00891, Samsung alleged that claims 26-29, 31, 36-41, 43, and 47-52 of the '228 Patent were unpatentable. To support its allegations, Samsung relied on the Draft Standard alone, combined with Boer, combined with the APA, and combined with Boer and APA. On December 10, 2014, the PTAB denied Samsung's petition concluding that Samsung "has not shown a reasonable likelihood that it would prevail in demonstrating that: (1) claims 26-29, 37-41, 43, and 47-52 of the '228 Patent are unpatentable as anticipated or obvious in view of Draft Standard; (2) claims 26-29, 36-41, 43, and 47-52 of the '228 Patent are unpatentable as obvious in view of Draft Standard and Boer; (3) claims 29, 31, 36, and 51 of the '228 Patent are unpatentable as obvious in view of Draft Standard and APA; or (4) claims 29, 31, 36, and 51 of the '228 Patent are unpatentable as obvious in view of Draft Standard, Boer, and APA."

In IPR2014-00892, Samsung alleged that claims 1-3, 5, and 10-21 of the '228 Patent were unpatentable under 35 U.S.C. § 103(a) over the APA and Boer. Upender was cited as Ex. 1322 to provide motivation to combine. On December 10, 2014, the PTAB instituted the IPR to review claims 1-3, 5, and 10-20 but *not* claim 21 because the petition did not demonstrate a reasonable likelihood of prevailing on the obviousness ground of unpatentability as to claim 21. In its final decision, the PTAB concluded that claims 1-3, 5, and 10-20 were unpatentable for obviousness over APA and Boer (using Ex. 1322 to find motivation to combine APA and Boer). On January 27, 2015, the PTAB denied Samsung's Rehearing Request with respect to claim 21.

In IPR2014-00893, Samsung alleged that claims 22, 23, and 25 of the '228 Patent were unpatentable under § 103(a) based on the APA and Boer (using Upender (now Ex. 1422) to combine APA and Boer). Samsung relied on Upender to support its allegation that there was motivation to combine. On December 10, 2014, the PTAB instituted the IPR. In its final decision, the PTAB concluded that claims 22, 23, and 25 were unpatentable for obviousness over APA and Boer (using Upender to find motivation to combine APA and Boer).

In IPR2014-00895, Samsung alleged that claims 26-29, 31, 36-41, 43, and 47-52 of the '228 Patent were unpatentable under § 103(a) based on the APA and Boer. Samsung also relied on Upender (Ex. 1522) to provide motivation to combine APA and Boer. The PTAB instituted the IPR to review all challenged claims. In its final decision, the PTAB concluded that these claims were unpatentable under § 103(a) based on the APA and Boer (and relying on Upender to make the claimed combination).

**October 21, 2014:** Samsung filed two additional IPRs against the '580 Patent, namely, IPR2015-00114 and IPR2015-00118. These IPRs challenged the claims for which the PTAB failed to institute in IPR2104-00518 and IPR2015-00519. Since the IPRs were outside the 1 year

window, they were accompanied by motions seeking to join the new IPRs to IPR2014-00518 and IPR2014-00519 respectively.

In IPR2015-00114, Samsung again challenged claims 2, 19, 49, 52, 53, 59 of the '580 Patent under § 103(a) based on APA and Boer (and citing Upender for motivation to combine these references). On January 28, 2015, the PTAB denied institution under § 325(d) and denied the joinder motion.

In IPR2015-00118, Samsung again challenged claims 23, 25, 29, 30, and 41 of the '580 Patent under § 103(a) based on the APA and Boer (and citing Upender for motivation to combine these references). On January 28, 2015, the PTAB denied institution under § 325(d) and denied the joinder motion.

**January 9, 2015:** Samsung filed an additional IPR against the '228 Patent, namely, IPR2015-00555. In this IPR, Samsung challenged claim 21, i.e., the claim for which the PTAB failed to institute in IPR2014-00892, under § 103(a) based on the APA, Boer, and Siwiak. Samsung also sought joinder with IPR2014-00892. On June 19, 2015, the PTAB denied institution under Section 325(d) and denied the joinder motion.

#### ***Ex Parte* Reexaminations:**

**September 12, 2016:** Samsung filed 2 requests for reexamination, 90/013,808 attacking claims 2 and 59 of the '580 Patent and 90/013,809 attacking claim 21 of the '228 Patent.

**September 27, 2016:** The Office ordered reexamination in the '808 case ('580 Patent).

**September 30, 2016:** Rembrandt filed petitions in both reexaminations asking the Director to exercise her authority under Section 325(d) and pointing to the PTAB's numerous refusals under Section 325(6) to consider additional IPRs.

**October 17, 2016:** The Office ordered reexamination in the '809 case ('228 Patent).

**November 28, 2016:** Rembrandt's two Section 325(d) petitions were dismissed based on the Office's position that Rembrandt had not established there was no substantial new question of patentability.

**January 24, 2017:** The Office issued a non-final Office Action in the '808 case ('580 Patent) which, *inter alia*, raised issues beyond the scope of reexamination.

**February 9, 2017:** Rembrandt filed a petition in the ‘808 case (‘580 Patent) asking the Director to withdraw the January 24, 2017 non-final Office Action and revise and reissue another non-final Office Action.

**March 9, 2017:** The Office issued a non-final Office Action in the ‘809 case (‘228 Patent) which, *inter alia*, raised issues beyond the scope of reexamination.

**March 27, 2017:** The CRU Director issued a “Decision Sua Sponte Vacating Non Final Office Action” in the ‘808 case (‘580 Patent) because it “include[d] a discussion of issues outside the scope of ex parte reexamination ....” The Decision also indicated the Office Action “will form no part of the record and will not be available to the public.”

**March 31, 2017:** The Office issued another non-final Office Action in the ‘808 case (‘580 Patent). Rembrandt’s response is due June 30, 2017.

**April 3, 2017:** Rembrandt’s February 9, 2017 petition in the ‘808 case (‘580 Patent) was dismissed as “moot” in view of the CRU Director’s withdrawal of the January 24, 2017 Office Action and issuance of another Office Action on March 31, 2017.

**April 3, 2017:** Rembrandt filed a petition in the ‘809 case (‘228 Patent) asking the Director to withdraw the March 9, 2017 non-final Office Action and revise and reissue another non-final Office Action.

**April 5, 2017:** The CRU Director issued a “Decision Sua Sponte Vacating Examiner’s Answer [*sic*: Non Final Office Action]” in the ‘809 case (‘228 Patent) because it “include[d] a discussion of issues outside the scope of ex parte reexamination ....” The Decision also indicated the Office Action “will form no part of the record and will not be available to the public.”

**May 2, 2017:** Rembrandt filed a petition in the ‘808 case (‘580 Patent) asking the Director to either (a) terminate the reexamination proceeding because the Office views the claims as indefinite and proceeding would necessarily be based on speculative assumption as to the meaning of the claims or (b) vacate the March 31, 2017 non-final Office Action and revise and reissue another non-final Office Action because the Office Action exceeds the limited scope of *ex parte* reexamination and fails to adequately detail the pertinence and manner of applying the cited art. This petition is still pending.

**May 3, 2017:** The Office issued another non-final Office Action in the ‘809 case (‘228 Patent). That same day, Rembrandt’s April 3, 2017 petition was dismissed as “moot” in view of the CRU Director’s withdrawal of the March 9, 2017 Office Action and issuance of another Office Action on May 3, 2017. Rembrandt’s response is due August 3, 2017.



**June 8, 2017:** Rembrandt filed a petition in the '809 case ('228 Patent) asking the Director to vacate the May 3, 2017 non-final Office Action as *ultra vires* because the Office has not made the threshold finding that the rejection based on Boer, the so-called Admitted Prior Art ("APA"), and Yamano ("the Boer Rejection") presented a substantial new question of patentability. In addition, the petition asked the Director to terminate the portion of the reexamination relating to the Boer Rejection under 35 U.S.C. §325(d) because it merely rehashes prior art and arguments substantively identical to those presented previously in IPR2015-00555. This petition is pending.

**June 14, 2017:** Rembrandt sent a letter to the Acting Director, requesting that he exercise his discretion under 35 U.S.C. §325(d) to withdraw the reexamination orders in the '808 case ('580 Patent) and the '809 case ('228 Patent) and terminate the reexaminations.

**June 22, 2017:** The CRU Director issued a decision dismissing Rembrandt's May 2, 2017 petition in the '808 case.

**June 23, 2017:** Samsung filed a response to Rembrandt's June 14, 2017 letter to the Acting Director.

# **Exhibit B**

**Comparison of Cited Portions of Snell with Substantially Identical Portions of Boer**

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
<p>1. The Office cited col. 4, ll. 42-47 and col. 5, ll. 18-21 of Snell to support an allegation that “Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN).” 9-27-16 Grant at 8.</p> <p>“Referring to FIG. 1, a wireless transceiver 30 in accordance with the invention is first described. The transceiver 30 may be readily used for WLAN applications in the 2.4 GHz ISM band in accordance with the proposed IEEE 802.11 standard. Those of skill in the art will readily recognize other applications for the transceiver 30 as well.” Snell at col. 4, ll. 42-47.</p> <p>“Like the HSP3824 baseband processor, the high data rate baseband processor 40 of the invention contains all of the functions necessary for a full or half duplex packet baseband transceiver.” Snell at col. 5, ll. 18-21.</p>	<p>1. Boer discloses a transceiver that serves as an access point 12 for communicating data with other transceivers 18 connected to a wireless local area network (WLAN). <i>See, e.g.</i>, Boer at col. 2, ll. 6-21; col. 1, ll. 16-26; col. 2, l. 63-col. 3, l. 24.</p> <p>“Referring first to FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented. The LAN 10 includes an access point 12, which serves as base station, and is connected to a cable 14 which may be part of a backbone LAN (not shown), connected to other devices and/or networks with which stations in the LAN 10 may communicate. The access point 12 has antennas 16 and 17 for transmitting and receiving messages over a wireless communication channel.” Boer, col. 2, ll. 6-15.</p> <p>“The network 10 includes mobile stations 18, referred to individually as mobile stations 18-1, 18-2, and having antennas 20 and 21, referred to individually as antennas 20-1, 20-2 and 21-1, 21-2. The mobile stations 18 are capable of transmitting and receiving messages ... .” Boer at col. 2, ll. 16-21.</p> <p>“[T]here is being produced IEEE standard 802.11, currently available in draft form, which specifies appropriate standards for use in wireless LANs. This standard specifies two possible data rates for data transmission, namely 1 Mbps (Megabit per second) and 2 Mbps. Accordingly, manufacturers have produced commercially available systems operating at these data rates. However, it may be advantageous to provide stations operating at higher data rates, which are not in accordance with the standard.” Boer, col. 1, ll. 16-26.</p>

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
	<p>Fig. 2 of Boer shows functional blocks necessary for a full or half duplex packet baseboard transmission:</p> <p>“Referring now to FIG. 2, there is shown a functional block diagram illustrating, for a station 18, the interconnection of the functional blocks which relate to the implementation of the present invention. The block 30 represents a MAC (medium access control) control unit which includes four state machines, namely a MAC control state machine C-MST 32, a MAC management state machine M-MST 34, a transmitter state machine T-MST 36 and a receiver state machine R-MST 38. The MAC control unit 30 is shown as connected over a line 40 to a 1-out-of-2 rate selector 42 and a scrambler 44. The rate selector 42 and scrambler 44 are connected to a 1-out-of-2 encoder 46 which encodes the data bits from the scrambler 44 in accordance with the selected 1 or 2 Mbps data rate. The output of the encoder 46 is connected to a spreader 48 which effects the above-discussed spread spectrum coding and applies the signal to an RF front-end transmitter 50 for application to the antenna 20.</p> <p>“The receive antenna 21 is connected to an RF front-end receiver 52 which is connected to a correlator 54 which effects a correlation to "despread" the received signal. A first output of the correlator 54 is connected to carrier detector 56. A second output of the correlator 54 is connected to a 1-out-of-2 detector/decoder 58 which has an output connected to an input of a descrambler 60. The output of the descrambler 60 is connected over a line 62 to the MAC control unit 30 and to a 1-out-of-2 rate selector 64 which has an output connected to the detector/decoder 58 to control the detector/decoder 58 appropriately in accordance with control information contained in received messages.” Col. 2, l. 63-col. 3, l. 24.</p>

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
<p>2. The Office cited col. 2, ll. 15-17; col. 2, ll. 27-30; col. 7, ll. 10-14; and Fig. 3 of Snell to support an allegation that Snell’s transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between BPSK and QPSK. 9-27-16 Grant at 8-9.</p> <p>“Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-fly. Spreading codes may be difficult to use in such an application where an on-the-fly change is required.” Snell at col. 2, ll. 15-17.</p> <p>“It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.” Snell at col. 2, ll. 27-30.</p> <p>“The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at col. 7, ll. 10-14.</p> <p>Fig. 3 is reproduced on page ___ above, where it is shown to be substantially the same as Boer’s Fig. 4.</p>	<p>2. Boer discloses a transceiver that transmits data packets intended for another transmitter. Boer at Fig. 1; col. 2, ll. 6-62. Just like the communication in Snell that can switch from BPSK for the preamble and header to QPSK for the subsequent variable data portion, Snell at col. 6, l. 34-col. 7, l. 14, communication in Boer can switch from DBPSK for the preamble and header to DQPSK for the subsequent data field. <i>See, e.g.</i>, Boer at Fig. 4; col. 3, ll. 56-62; col. 4, ll. 4-11.</p> <p>“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.” Boer at col. 3, ll. 56-62.</p> <p>“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.” Boer at col. 4, ll. 4-11.</p>
<p>3. The Office cited col. 6, ll. 35-36; col. 6, ll. 64-66; col. 7, ll. 5-14; and Fig. 3 of Snell to support an allegation that Snell discloses that each data packet transmission comprises a group of transmission sequences structured with a PLCP preamble and PLCP header portion and an MPDU data portion. 9-27-16 Grant at 9.</p> <p>“The header may always be BPSK.” Snell at col. 6, ll. 35-36.</p>	<p>3. Boer discloses a message 200 that comprises a group of transmission sequences structured with a preamble 216, header 218, and a data field 214. <i>See, e.g.</i>, Boer at Fig. 4; col. 3, ll. 56-62; col. 4, ll. 4-11.</p> <p>“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four</p>

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
<p>“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker. SYNC and SFD are internally generated.” Snell at col. 6, ll. 64-66.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at col. 7, ll. 5-14.</p> <p>Fig. 3 is reproduced on page ___ above, where it is shown to be substantially the same as Boer’s Fig. 4.</p>	<p>possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.” Boer at col. 3, ll. 56-62.</p> <p>“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.” Boer at col. 4, ll. 4-11.</p>
<p>4. The Office cited Fig. 3 and col. 6, line 48-col. 7, line 14 of Snell to support an allegation that “[t]he PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields.” 9-27-16 Grant at 9.</p> <p>Fig. 3 is reproduced on page ___ above, where it is shown to be substantially the same as Boer’s Fig. 4.</p> <p>“Referring now additionally to FIG. 3, the timing and signal format for the interface 80 is described in greater detail. Referring to the left hand portion, Sync is all 1’s, and SFD is F3AOh for the PLCP preamble 90. Now relating to the PLCP header 91, the SIGNAL is:</p> <hr/> <p>0Ah            1 Mbit/s BPSK, 14h            2 Mbit/S QPSK,</p>	<p>4. Boer discloses a preamble 216 that contains SYNC and SFD fields 202, 204 and a header 218 that contains SIGNAL, SERVICE, LENGTH, and CRC fields 206, 208, 210, 212. <i>See, e.g.</i>, Boer at Fig. 4; col. 3, l. 42-col. 4, l. 24.</p> <p>“Referring now to FIG. 4, there is shown the format of a typical message 200 used in the LAN 10. The message 200 includes a 128-bit SYNC (synchronisation) field 202, a 16-bit SFD (start of frame delimiter) field 204, an 8-bit SIGNAL field 206 (to be explained), an 8-bit SERVICE field 208 (to be explained), a 16-bit LENGTH field 210 (to be explained), a 16-bit CRC check field 212, which provides a CRC check for the portions 206, 208 and 210, and finally a DATA field 214 which comprises a variable number of data "octets", that is 8-bit data segments, sometimes referred to as "bytes". The fields 202 and 204 are together conveniently referred to as a preamble 216 and</p>

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
<p>37h            5.5 Mbit/s BPSK, and 6Eh            11 Mbit/s QPSK.</p> <hr/> <p>“The SERVICE is 00h, the LENGTH is XXXXh wherein the length is in <math>\mu</math>s, and the CRC is XXXXh calculated based on SIGNAL, SERVICE and LENGTH. MPDU is variable with a number of octets (bytes).</p> <p>“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker. SYNC and SFD are internally generated. SIGNAL, SERVICE and LENGTH fields are provided by the interface 80 via a control port. SIGNAL is indicated by 2 control bits and then formatted as described. The interface 80 provides the LENGTH in <math>\mu</math>s. CRC in PLCP header is performed on SIGNAL, SERVICE and LENGTH fields.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at col. 6, line 48-col. 7, line 14.</p>	<p>the fields 206, 208, 210 and 212 are together conveniently referred to as a header 218.</p> <p>“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove. Of course, the stations 18 are capable of transmitting at the 1 and 2 Mbps rates only, whereas the stations 22 can transmit the DATA field 214 at a selected one of the four data rates.</p> <p>“In more detail concerning the format of the message 200, the SYNC field 202 consists of 128 bits of scrambled "1" bits, enabling a receiving device to perform the necessary operations for synchronisation. The SFD field 204 consists of a predetermined 16-bit field identifying the impending start of the header 218. The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate. It should be understood at this point that the stations 18, adapted to operate at the 1 and 2 Mbps rates only, ignore the SERVICE field 208. This aspect will be discussed more fully hereinafter. The LENGTH field 210 contains, if the bit rate is designated as 1 or 2 Mbps, a value corresponding to the actual number of octets in the DATA field 214. However for the 5 and 8 Mbps rates, the LENGTH field 210 contains a value which is a fraction, <math>2/5</math> and <math>2/8</math>, times the actual number of octets in the DATA field 214, respectively. These values correspond to the</p>

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
	length in octets of a transmission at 2 Mbps which would give the same transmission time of the DATA field 214, which is actually transmitted at 5 Mbps, or 8 Mbps respectively.” Boer at col. 3, l. 42-col. 4, l. 24.
<p>5. The Office cited col. 7, line 5-14 and Fig. 3 of Snell to support an allegation that “[t]he MPDU data is the data to be transmitted to the receiving transmitter.” 9-27-16 Grant at 9.</p> <p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at col. 7, ll. 5-14.</p> <p>Fig. 3 is reproduced on page ___ above, where it is shown to be substantially the same as Boer’s Fig. 4.</p>	<p>5. Boer discloses that the data in DATA field 214 is the data to be transmitted to the receiving transmitter. <i>See, e.g.</i>, Boer at Fig. 4; col. 3, ll. 56-62; col. 4, ll. 4-11.</p> <p>“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.” Boer at col. 3, ll. 56-62.</p> <p>“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.” Boer at col. 4, ll. 4-11.</p>
<p>6. The Office cited col. 6, ll. 35-36 of Snell to support an allegation that Snell teaches that the PLCP preamble and PLCP header are always modulated using BPSK. 9-27-16 Grant at 10.</p> <p>“The header may always be BPSK.” Snell at col. 6, ll. 35-36.</p>	<p>6. Boer discloses that “the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation.” Boer at col. 3, ll. 56-58. <i>See also id.</i> at Fig. 4.</p>
<p>7. The Office provided no citations to support an allegation that Snell discloses that the SIGNAL field in the PLCP header indicates which of BPSK and QPSK is used for modulating information in the MPDU data. 9-</p>	<p>7. Boer discloses that the SIGNAL and SERVICE fields 206 and 208 of the header 218 indicate which of DBPSK and DQPSK is used for modulating information in the DATA field 214. <i>See, e.g.</i>, Boer at col. 4, ll. 4-11; col.</p>



Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer								
<p>27-16 Grant at 10.</p>	<p>6, ll. 12-18.</p> <p>“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.” Boer at col. 4, ll. 4-11.</p> <p>“If rate switching is to take place, then after the last bit of the header 218 has passed through, the rate selector 142 provides a control signal to the encoder, to switch from operation in the 1 Mbps DBPSK mode to the 2 Mbps DQPSK mode, 5 Mbps PPM/QPSK mode or the 8 Mbps PPM/QPSK mode, whereby the DATA field 214 is encoded in the selected manner.” Boer at col. 6, ll. 12-18.</p>								
<p>8. The Office cited col. 6, ll. 52-59; col. 7, ll. 1-2; col. 7, ll. 5-14; and Fig. 3 to support an allegation that “Snell teaches that the SIGNAL field in the PLCP header can have four values ... , each of which corresponds to a modulation method for the MPDU data.” 9-27-16 Grant at 10.</p> <p>“Now relating to the PLCP header 91, the SIGNAL is:</p> <table border="1"> <tbody> <tr> <td>0Ah</td> <td>1Mbits/s BPSK</td> </tr> <tr> <td>14h</td> <td>2Mbits/s QPSK</td> </tr> <tr> <td>37h</td> <td>5.5 Mbits/s BPSK, and</td> </tr> <tr> <td>6Eh</td> <td>11Mbits/s QPSK.</td> </tr> </tbody> </table> <p>Snell at col. 6, ll. 52-59.</p> <p>“SIGNAL is indicated by 2 control bits and then formatted as described.” Snell at col. 7, ll. 1-2.</p>	0Ah	1Mbits/s BPSK	14h	2Mbits/s QPSK	37h	5.5 Mbits/s BPSK, and	6Eh	11Mbits/s QPSK.	<p>8. Boer discloses that the SIGNAL and SERVICE fields 206 and 208 of the header 218 together indicate one of four data rates, each of which corresponds to a modulation mode for the DATA field 214. <i>See, e.g.</i>, Boer at col. 3, ll. 56-62; col. 4, ll. 4-11; col. 6, ll. 12-18.</p> <p>“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.” Boer at col. 3, ll. 56-62.</p> <p>“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is</p>
0Ah	1Mbits/s BPSK								
14h	2Mbits/s QPSK								
37h	5.5 Mbits/s BPSK, and								
6Eh	11Mbits/s QPSK.								

Portions of Snell Cited in the 9-27-16 Order	Substantially Identical Portions of Boer
<p>“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” Snell at col. 7, ll. 5-14.</p> <p>Fig. 3 is reproduced on page ___ above, where it is shown to be substantially the same as Boer’s Fig. 4.</p>	<p>transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.” Boer at col. 4, ll. 4-11.</p> <p>“If rate switching is to take place, then after the last bit of the header 218 has passed through, the rate selector 142 provides a control signal to the encoder, to switch from operation in the 1 Mbps DBPSK mode to the 2 Mbps DQPSK mode, 5 Mbps PPM/QPSK mode or the 8 Mbps PPM/QPSK mode, whereby the DATA field 214 is encoded in the selected manner.” Boer at col. 6, ll. 12-18.</p>

# Exhibit C

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

REMBRANDT WIRELESS	§	
TECHNOLOGIES, LP,	§	
	§	
v.	§	CASE NO. 2:13-CV-213-JRG-RSP
	§	
SAMSUNG ELECTRONICS CO., LTD.,	§	
et al.	§	

**CLAIM CONSTRUCTION**  
**MEMORANDUM AND ORDER**

On May 30, 2014, the Court held a hearing to determine the proper construction of the disputed claim terms in United States Patents No. 8,023,580 and 8,457,228. After considering the arguments made by the parties at the hearing and in the parties' claim construction briefing (Dkt. Nos. 97, 102, and 103),<sup>1</sup> the Court issues this Claim Construction Memorandum and Order.

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<sup>1</sup> Citations to documents (such as the parties' briefs and exhibits) in this Claim Construction Memorandum and Order refer to the page numbers of the original documents rather than the page numbers assigned by the Court's electronic docket unless otherwise indicated. Defendants are Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, Samsung Austin Semiconductor, LLC (collectively referred to as "Samsung"), Blackberry Corp., and Blackberry Ltd. (collectively referred to as "Blackberry"; formerly known as Research In Motion Corp. and Research In Motion Ltd., respectively) (all collectively referred to as "Defendants").

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## BACKGROUND

Plaintiff brings suit alleging infringement of United States Patents No. 8,023,580 (“the ‘580 Patent”) and 8,457,228 (“the ‘228 Patent”) (collectively, the “patents-in-suit”).

The patents-in-suit are both titled “System and Method of Communication Using At Least Two Modulation Methods.” The ‘580 Patent issued on September 20, 2011, and bears a filing date of August 19, 2009. The ‘228 Patent issued on June 4, 2013, and bears a filing date of August 4, 2011. The ‘228 Patent is a continuation of the ‘580 Patent. Both patents-in-suit bear an earliest priority date of December 5, 1997.

In general, the patents-in-suit relate to modulation methods for communications. Plaintiff argues that the patents-in-suit relate to the well-known “Bluetooth” wireless communication standards. *See* Dkt. No. 97 at 1. The Abstract of the ‘580 Patent is representative and states:

A device may be capable of communicating using at least two type types [*sic*] of modulation methods. The device may include a transceiver capable of acting as a master according to a master/slave relationship in which communication from a slave to a master occurs in response to communication from the master to the slave. The master transceiver may send transmissions discrete transmissions [*sic*] structured with a first portion and a payload portion. Information in the first portion may be modulated according to a first modulation method and indicate an impending change to a second modulation method, which is used for transmitting the payload portion. The discrete transmissions may be addressed for an intended destination of the payload portion.

## LEGAL PRINCIPLES

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See id.* at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns*

*Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312-13; *accord Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314-15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *accord Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms "where the ordinary and accustomed meaning of

the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc 'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); accord *Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”). “[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.” *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic



evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

**CONSTRUCTION OF DISPUTED TERMS**

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with preliminary constructions of the disputed terms with the aim of focusing the parties’ arguments and facilitating discussion. Those preliminary constructions are set forth within the discussion of each term, below.

**A. “first modulation method” and “second modulation [method]”**

<b>“first modulation method”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
“a first method for varying one or more characteristics of a carrier in accordance with information to be communicated” <sup>2</sup>	“a method of encoding data that is understood by a first type of receiver, but not by a second type of receiver”
<b>“second modulation [method]”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
“a second method for varying one or more characteristics of a carrier in accordance with information to be communicated” <sup>3</sup>	“a method of encoding data that is understood by the second type of receiver, but not by the first type of receiver”

Dkt. No. 97 at 6; Dkt. No. 102 at 2-3. The parties submit that the first of these terms appears in Claims 1, 2, 13, 19, 21, 22, 23, 32, 40, 41, 49, 54, 58, 59, 70, 76, 78, and 79 of the ‘580 Patent and Claims 1, 5, 15, 17, 18, 22, 25, 26, 37, 38, 39, 41, 47, 48, 49, and 52 of the ‘228 Patent. Dkt.

<sup>2</sup> Plaintiff previously proposed: “No construction necessary; plain and ordinary meaning applies. Alternatively, ‘a first method for encoding data onto a carrier.’” Dkt. No. 81, Ex. A at 7.

<sup>3</sup> Plaintiff previously proposed: “No construction necessary; plain and ordinary meaning applies. Alternatively, ‘a second method for encoding data onto a carrier.’” Dkt. No. 81, Ex. A at 9.

No. 82, Ex. A at 7. The parties submit that the second of these terms appears in Claims 1, 13, 20, 22, 23, 32, 40, 49, 54, 58, 70, 77, and 79 of the '580 Patent and Claims 1, 10, 17, 18, 22, 23, 26, 37, 38, 41, 43, 47, and 49 of the '228 Patent. *Id.* at 9.

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “first modulation method” means “a first method for varying one or more characteristics of a carrier signal in accordance with information to be communicated”; and “second modulation [method]” means “a second method for varying one or more characteristics of a carrier signal in accordance with information to be communicated.” Plaintiff had no opposition to these preliminary constructions. Defendants were opposed.

(1) The Parties' Positions

Plaintiff argues that “Defendants’ constructions . . . confuse ‘modulation’ with ‘encoding’” and import limitations from a preferred embodiment. Dkt. No. 97 at 6. Plaintiff also submits that examples of the characteristics of a carrier than can be modulated are amplitude, frequency, and phase. *Id.* In this regard, Plaintiff cites extrinsic dictionary definitions (quoted below) as well as statements by Defendant Samsung in an inter partes review (“IPR”) filing. *Id.* at 7; *see id.*, Ex. 7, 3/20/2014 Petition for *Inter Partes* Review of U.S. Patent No. 8,023,580 at 9 (citing *The IEEE Standard Dictionary of Electrical and Electronics Terms* 662 (6th ed. 1996)). Plaintiff also argues that the constituent terms “first” and “second” refer to repeated instances rather than to any distinction or incompatibility. *Id.* at 8. Plaintiff explains that this is a patent law convention and that this interpretation is consistent with usage of “first” and “second” in various claims as well as in the Summary section of the '580 Patent. *Id.* at 8-10.

As to Defendants' proposed constructions, Plaintiff argues that the patents-in-suit "never use the term 'encode' at all," and Plaintiff cites the provisional patent application to which the patents-in-suit claim priority as distinguishing between "modulation" and "encoding." *Id.* at 11-12. Plaintiff also argues that Defendants' proposal of incompatibility between the first and second modulation methods is found in a preferred embodiment but not in the claims. *Id.* at 12. Plaintiff submits that such a limitation appears only in dependent claims, namely Claims 18 and 75 of the '580 Patent. *Id.* at 13. Further, Plaintiff argues, Defendants' proposals would improperly exclude embodiments in which "modems may be capable of using several different modulation methods." *Id.* (quoting '580 Patent at 1:36-37; citing *id.* at 5:51-54). Plaintiff likewise argues that "the USPTO examiner recognized that the claimed 'first' and 'second' modulation methods could be understood by a common receiver—contrary to Defendants' constructions." Dkt. No. 97 at 14. Finally, Plaintiff urges that Defendants' proposals "would render claim limitations that explicitly require 'the first modulation method is different than the second modulation method' superfluous." *Id.* at 16 (citing '580 Patent at Claims 23, 32 & 40).

Defendants respond that "the sole disclosed embodiment of the invention has a 'Trib 1'<sup>4</sup> modem that understands 'type A' modulation but not '[t]ype B,' and a 'Trib 2' modem that understands 'type B' modulation but not 'type A.'" Dkt. No. 102 at 3; *see id.* at 6-9. Defendants note that the specification asserts (in Defendants' words) that "in the prior art, because all modems connected to a common circuit needed to use compatible modulation methods, tribbs that supported only a low-performance modulation method (e.g. type B) would not work in systems

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<sup>4</sup> The patents-in-suit disclose that in a "multipoint architecture," the term "trib" is a shortened form of the word "tributary" and refers to one of several modems that communicates with a single "master" modem. *See* '580 Patent at 1:56-58 & 3:40-44. The term "trib" appears to be synonymous with the term "slave" as used in the patents-in-suit. *See* Dkt. No. 97, Ex. 7, 3/20/2014 Petition for *Inter Partes* Review of U.S. Patent No. 8,023,580 at 11.

that require a high-performance modulation (e.g. type A) for any tasks.” *Id.* at 4. Defendants explain that “[i]f the tribbs speak each other’s language, the alleged invention would be unnecessary.” *Id.* at 3; *see id.* at 5 (“If the type B trib could understand type A modulation, type A modulation would simply be used by both devices, as in the prior art.”).

As to the prosecution history, Defendants highlight that the patentee deleted from the specification all disclosures of what Defendants refer to as a “bilingual” trib, *i.e.*, a trib with the ability to use two types of modulation. *Id.* at 9-10. Defendants also submit that the examiner statement cited by Plaintiff in its opening brief was made before the patentee deleted the disclosures of a bilingual trib. *Id.* at 10. Further, Defendants cite the prosecution history of ancestor United States Patent No. 6,616,838, during which the patentee stated: “The present invention is directed to the use of differing transceivers responsive to different modulation methods to the exclusion of other modulation methods . . . .” *Id.* at 11 (quoting Ex. 8, 9/27/2001 First Amendment and Response at p. 6 of 10).

As to their proposed constructions, Defendants note that “encoding” appeared in the constructions that Plaintiff had proposed prior to filing its opening claim construction brief. Dkt. No. 102 at 3 & 14. Defendants also argue: “First, contrary to [Plaintiff’s] arguments, ‘modulation’ is ‘encoding,’ as [Plaintiff’s] own dictionary confirms. Second, [Plaintiff’s] construction injects the complex concept of carrier waves into the definition. That concept would not assist a jury.” *Id.* at 14 (citations omitted). Finally, Defendants argue that the claim limitations requiring “different” modulation methods are “already superfluous.” *Id.* at 15.

Plaintiff replies to Defendants’ arguments as follows: (1) whether the claims adequately distinguish prior art is a matter of validity, not claim construction, and the patentee did not anywhere state that the point of novelty was that receivers understand only one modulation

method; (2) the claims should not be limited to a particular embodiment and, moreover, the patents-in-suit incorporate related patent applications that disclose bilingual tribbs (*see* Dkt. No. 103, Ex. 30 at RIP9770); (3) the patentee removed, from the specification, references to measuring transmission line characteristics, but the patentee did not disclaim all embodiments in which multiple modulation methods could be understood by a single tribb; (4) Defendants' technology tutorial submitted to this Court (Dkt. No. 103, Ex. 28) confirms that "modulation" is different than "encoding"; (5) the doctrine of claim differentiation is not overcome by any disclosures in the specification; and (6) Defendants' proposals would render superfluous the claim limitations requiring that the "first" and "second" modulation methods be "different." Dkt. No. 103 at 2-5.

At the May 30, 2014 hearing, Defendants emphasized that the only disclosed embodiment uses monolingual tribbs and that during prosecution the patentee deleted disclosure of bilingual tribbs. The Court inquired where, if anywhere, the patentee stated that a tribb can understand only one modulation method. Defendants responded that the patentee made that statement "by implication" by removing the disclosure of bilingual tribbs. In this regard, Defendants cited the case of *Abbott Laboratories v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009). As to Plaintiff's claim differentiation arguments, Defendants urged that the dependent claim "tail" cannot wag the specification "dog." *See N. Am. Vaccine, Inc. v. Am. Cyanamid Co.*, 7 F.3d 1571, 1577 (Fed. Cir. 1993) ("The dependent claim tail cannot wag the independent claim dog.").

Plaintiff responded that the deletions were merely "housekeeping" and related primarily to test signals and to measuring transmission line characteristic rather than to the use of multilingual tribbs. Plaintiff also reiterated that the patents-in-suit incorporate-by-reference

related applications that disclose multilingual tribbs. Finally, Plaintiff cited *01 Communique Laboratory, Inc. v. LogMeIn, Inc.*, 687 F.3d 1292 (Fed. Cir. 2012), for the proposition that if the prosecution history is subject to a reasonable, non-limiting interpretation, then there is no disclaimer.

(2) Analysis

Claim 1 of the '580 Patent is representative and recites (emphasis added):

1. A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise *a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method*, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the *first modulation method* and the *second modulation method* is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the *first modulation method*, wherein the first sequence indicates an impending change from the *first modulation method* to the *second modulation method*, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the *second modulation method*, wherein the second sequence is transmitted after the first sequence.

As an initial matter, Defendants' proposed constructions appear to render redundant the recital of "wherein the second modulation method is of a different type than the first modulation method." Defendants have countered that "[t]he limitations of these claims requiring 'different' modulation methods are . . . already superfluous" because "[Plaintiff] admits that the terms 'first' and 'second' . . . are used to distinguish two items that (while similarly named) are, in fact,

different.” Dkt. No. 102 at 15. Nonetheless, such redundancy is disfavored when construing claims. *See Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”); *see also Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562 (Fed. Cir. 1991) (noting that “[a]ll the limitations of a claim must be considered meaningful”).

As for the specification, the Background section of the ‘580 Patent states that prior art systems required all modems to use a single, common modulation method:

In existing data communications systems, a transmitter and receiver modem pair can successfully communicate only when the modems are compatible at the physical layer. That is, the modems must use *compatible modulation methods*. This requirement is generally true regardless of the network topology. For example, point-to-point, dial-up modems operate in either the industry standard V.34 mode or the industry standard V.22 mode. Similarly, in a multipoint architecture, all modems operate, for example, in the industry standard V.27bis mode. While the modems may be capable of using several different modulation methods, *a single common modulation is negotiated at the beginning of a data session to be used throughout the duration of the session.*

‘580 Patent at 1:26-39 (emphasis added). The specification then discloses using different modulation methods:

For example, some applications (e.g., internet access) require *high performance modulation*, such as quadrature amplitude modulation (QAM), carrier amplitude and phase (CAP) modulation, or discrete multitone (DMT) modulation, while other applications (e.g., power monitoring and control) require only modest data rates and therefore a *low performance modulation* method.

\* \* \*

While it is possible to use high performance tribs running state of the art modulation methods such as QAM, CAP, or DMT to implement both the high and low data rate applications, *significant cost savings can be achieved if lower cost tribs using low performance modulation methods are used to implement the lower data rate applications.*

*Id.* at 2:1-8 & 5:17-22 (emphasis added).

A block diagram of a master transceiver 64 in communication with a trib 66 in accordance with the principles of the present invention is shown in FIG. 3. \* \* \*

Trib 66 comprises CPU 82 in communication with modulator 84, demodulator 86, and memory 88. Memory 88, likewise holds software control program 92 and any data necessary for the operation of trib 66. Control programs 78 and 92, are executed by CPUs 68 and 82 and provide the control logic for the processes to be discussed herein. Control program 92 includes logic for *implementing a particular modulation method*, which, for purposes of illustration, is called type X[.] Inasmuch as master transceiver 64 is capable of running *either* a type A *or* a type B modulation method, type X refers to *one* of those two modulation methods.

*Id.* at 5:23-25 & 5:42-44 (emphasis added).

[A]s shown in FIG. 5, master transceiver 64 establishes type A as the primary modulation in sequence 104. Note that because trib 66*b* responds only to type B modulation transmissions, only the type A trib 66*a* are receptive to transmission sequence 104.

\* \* \*

Note that the trailing sequence 114 is ineffective in establishing the termination of a communication session between master transceiver 64 and a type B trib 66*b* because the trailing sequence is transmitted using type A modulation.

*Id.* at 5:65-6:2 & 6:25-29.

The specification does not, however, warrant Defendants' proposed finding that the invention is framed exclusively in the realm of monolingual trib. Instead, the specification discloses that the advantage of using multiple modulation methods is applicable to multi-lingual trib:

The present invention has many advantages, a few of which are delineated hereafter as merely examples.

One advantage of the present invention is that it provides to the *use of a plurality of modem modulation methods on the same communication medium*.

Another advantage of the present invention is that a master transceiver can communicate seamlessly with tributary transceivers or modems using incompatible modulation methods.



‘580 Patent at 2:50-57 (emphasis added).

As to the prosecution history, Defendants have focused on: (1) a statement regarding the “present invention” during prosecution of an ancestor patent; and (2) the patentee’s deletion of certain paragraphs from the specification of the patents-in-suit.

First, Defendants have cited the prosecution history of ancestor United States Patent No. 6,616,838, during which the patentee stated: “The present invention is directed to the use of differing transceivers responsive to different modulation methods to the exclusion of other modulation methods . . . .” Dkt. No. 97, Ex. 17, 9/27/2001 First Amendment and Response at 6. Yet, the ‘580 Patent is a continuation of a continuation of a continuation-in-part of the ‘838 Patent. The multiple intervening applications render the cited prosecution statement too attenuated to be deemed definitive as to the patents-in-suit, particularly given that the patentee was adding the “exclusion” language to a claim and was referring to “[t]he present invention” in the context of that claim. *See id.* at 6 & A-1; *see also Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1078 (Fed. Cir. 2005) (“[T]he prosecution of one claim term in a parent application will generally not limit different claim language in a continuation application.”); *cf. Regents of the Univ. of Minn. v. AGA Med. Corp.*, 717 F.3d 929, 943 (Fed. Cir. 2013) (“When the purported disclaimers made during prosecution are directed to specific claim terms that have been omitted or materially altered in subsequent applications (rather than to the invention itself), those disclaimers do not apply.”) (quoting *Saunders Grp., Inc. v. Comfortrac, Inc.*, 492 F.3d 1326, 1333 (Fed. Cir. 2007)).

Second, Defendants have cited the patentee’s deletion of matter from the specification of the patents-in-suit. In the case of *Abbott Laboratories v. Sandoz, Inc.*, cited by Defendants

during the May 30, 2014 hearing, the court relied at least in part upon the patentee's omission of matter contained in a parent application:

[T]he specification refers several times to "Crystal A of the compound (I) of the present invention" and offers no suggestion that the recited processes could produce non-Crystal A compounds, even though other types of cefdinir crystals, namely Crystal B, were known in the art. As noted earlier, the Crystal B formulation actually appears in the parent JP '199 application. Thus, Abbott knew exactly how to describe and claim Crystal B compounds. Knowing of Crystal B, however, Abbott chose to claim only the A form in the '507 patent. Thus, the trial court properly limited the term "crystalline" to "Crystal A."

\* \* \*

In limiting "crystalline" to "Crystal A" in claims 1-5, the Eastern District of Virginia did not improperly import the preferred embodiment into the claims. Initially, Crystal A is the only embodiment described in the specification. As discussed above, the specification's recitation of Crystal A as its sole embodiment does not alone justify the trial court's limitation of claim scope to that single disclosed embodiment. *See Liebel-Flarsheim [Co. v. Medrad, Inc.]*, 358 F.3d [898,] 906 [(Fed. Cir. 2004)] ("[T]his court has expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment."). In this case, however, the rest of the intrinsic evidence, including the prosecution history and the priority JP '199 application, evince a clear intention to limit the '507 patent to Crystal A . . . .

\* \* \*

The JP '199 application strongly suggests that the '507 patent intentionally excluded Crystal B compounds. As discussed above, the JP '199 application establishes unequivocally that Abbott knew and could describe both Crystal A and Crystal B. Abbott could have retained the disclosure of Crystal B to support the broader claims of the '507 patent, but instead disclosed and claimed A alone.

\* \* \*

Given the exclusive focus on Crystal A in the specification as well as the prosecution history of the '507 patent, the Eastern District of Virginia properly limited "crystalline" in claims 1-5 to "Crystal A."

\* \* \*

The Eastern District of Virginia correctly construed the '507 patent's recitation of "crystalline" in each of the asserted claims as limited to Crystal A, as outlined in the specification. Because Abbott scrubbed all references to Crystal B in the '507

patent's specification, which were present in the '507 patent's parent foreign application, Abbott clearly demonstrated its intent to limit the '507 patent to Crystal A. This intent was further underscored by comments made during prosecution. As such, Abbott is unable to recapture Crystal B through broad claim language or under the doctrine of equivalents.

566 F.3d at 1289-90, 1299 (citation omitted).

Here, by contrast, the patentee's deletion of matter relates less directly to the limitation that Defendants seek to impose. The patentee deleted the following paragraphs during prosecution of the '580 Patent:

[0042] In an alternative embodiment of the present invention, embedded modulations can be used as a way to *measure transmission line characteristics* between a master transceiver and tributary transceiver as shown in FIG 8. In this embodiment, *both a master transceiver 64 and a tributary transceiver 66a would have the ability to transmit using at least two modulation methods, type A and type B*. In the present example, the primary transmission type is type A. Thus, as shown in FIG. 8, the master transceiver 64 establishes type A as the primary modulation in sequence 150.

[0043] To *switch from type A to type B modulation*, master transceiver 64 transmits a notification sequence 152 to the tributary 66a. Thus, the tributary 66a is notified of an impending change to modulation type B. The switch to type B modulation could be limited according to a specific time interval or for the communication of a particular quantity of data, such as a *test signal*. After notifying the tributary 66a of the change to type B modulation, the master transceiver 64[] transmits test signal sequence 151 using type B modulation.

[0044] In this embodiment, the tributary transceiver can contain logic which enables the tributary 66a to *calculate at least one channel parameter from the test signal sequence 154*. Channel parameters typically include *transmission line characteristics*, such as, for example, loss versus frequency, non-linear distortion, listener echoes, talker echoes, bridge tap locations, impedance mismatches, noise profile, signal-to-noise ratio, group delay versus frequency, cross-talk presence, cross-talk type, etc. Moreover, the tributary transceiver 66a could be configured to communicate a channel parameter back to the master transceiver 64.

[0045] After transmitting the *test signal* sequence 154 to the tributary transceiver 66a, the master transceiver 64 can transmit trailing sequence 156 to the tributary transceiver 66a using type A modulation to indicate the end of the transmission using type B modulation. The master transceiver 64 can then send information to the tributary transceiver 66a using primary modulation type A, as shown by

training, data and trailing sequences 158, 160 and 162. Likewise, the tributary transceiver 66a can send information to the master transceiver 64 using primary modulation type A, as shown by training, data and trailing sequences 164, 166 and 168.

[0046] In a further alternative embodiment, the master transceiver 64 or tributary transceiver 66a may identify a time period within which *test signal* sequences may be transmitted. This would eliminate the training and trailing sequences which alert the tributary transceiver 66a to the beginning of a new modulation method. The identification of the time period could be initiated by the master transceiver 64 or tributary transceiver 66a and could include a time period noted in the header of a transmission between the tributary transceiver 66a and master transceiver 64.

Dkt. No. 97, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 5-6 (RIP3521-22) (emphasis added); *see id.* at 22 (“The MPEP suggests that the applicant modify the brief summary of the invention and restrict the descriptive subject matter ‘so as to be in harmony with the claims.’ *MPEP 1302.01*, General Review of Disclosure. Accordingly, Applicant has deleted paragraphs [0042] – [0046].”) (square brackets in original); *see also* Dkt. No. 102, Ex. 4 at p. 20 of 44 (RIP19) (Figure 8, illustrating “Trib Type A + B”); Dkt. No. 97, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 4 (RIP3520), 22 (RIP3538) & p. 34 of 34 (RIP3549) (replacing Figure 8).

This deletion of disclosure of “a tributary transceiver 66a [that has] the ability to transmit using at least two modulation methods” is notable, and Defendants argued at the May 30, 2014 hearing that a “test signal” is merely an example of a communication with a bilingual trib. Dkt. No. 97, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 5-6 (RIP3521-22). Nonetheless, Plaintiff has persuasively argued that these paragraphs relate primarily to test signals and to measuring transmission line characteristics rather than to the use of bilingual tribes. The above-quoted *Sandoz* case cited by Defendants is therefore distinguishable, and the patentee’s deletion of matter from the specification is of no limiting effect here. *See SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1286 (Fed. Cir. 2005) (“There is no clear and unmistakable

disclaimer if a prosecution argument is subject to more than one reasonable interpretation, one of which is consistent with a proffered meaning of the disputed term.”) (internal quotation marks omitted); *see also 01 Communique*, 687 F.3d at 1297 (quoting *SanDisk*).

Defendants also argued at the May 30, 2014 hearing that the patentee removed this matter because it was introduced in a parent continuation-in-part application. Defendants explained that if the claims of the patents-in-suit were found to rely upon this new matter, the claims would not receive benefit of the earliest priority date. Defendants concluded that the patentee deleted these paragraphs from the specification in order to eliminate this risk. Defendants’ argument in this regard appears better suited to a written description challenge because validity analysis is not a regular part of claim construction. *See Phillips*, 415 F.3d at 1327 (“[W]e have certainly not endorsed a regime in which validity analysis is a regular component of claim construction.”). Defendants’ arguments regarding deletion of matter from the specification are therefore of minimal relevance during the present claim construction proceedings.

In sum, none of the prosecution history cited by Defendants contains any definitive statements that would warrant finding a disclaimer. *See Omega Eng’g v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003) (“As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on *definitive* statements made during prosecution.”) (emphasis added). Further, as explained above, the prosecution history is not otherwise sufficiently clear to justify Defendants’ narrow interpretation of the present patents-in-suit.

As to the parties’ proposed constructions, “[t]he use of the terms ‘first’ and ‘second’ is a common patent-law convention to distinguish between repeated instances of an element or limitation.” *3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir.

2003). Nothing in the nature of “repeated instances” demands the incompatibility that Defendants have proposed. *Cf. id.* (“In the context of claim 1, the use of the terms ‘first . . . pattern’ and ‘second . . . pattern’ is equivalent to a reference to ‘pattern A’ and ‘pattern B,’ and should not in and of itself impose a serial or temporal limitation onto claim 1.”). Although the above-quoted disclosures in the specification contemplate a trib that can use only one modulation method, nothing in the claim language warrants limiting the disputed terms to such a narrow construction.

The doctrine of claim differentiation also weighs against requiring incompatibility because such a limitation appears in dependent Claims 18 and 75 of the ‘580 Patent, which recite:

18. The device of claim 15, wherein the intended destination is the first type of receiver and unable to demodulate the second modulation method.

\* \* \*

75. The device of claim 72, wherein the intended destination is the first type of receiver and unable to demodulate the second modulation method.

The doctrine of claim differentiation weighs against any construction of the disputed terms that would render these dependent claims superfluous. *See Phillips*, 415 F.3d at 1315 (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”); *see also Liebel-Flarsheim*, 358 F.3d at 910 (“[W]here the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.”); *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001) (“Claim differentiation, while often argued to be controlling when it does not apply, is clearly applicable when there is a dispute over whether a limitation found in a dependent claim should be read into

an independent claim, and that limitation is the only meaningful difference between the two claims.”).

Defendants have countered that “any presumption created by the doctrine of claim differentiation will be overcome by a contrary construction dictated by the written description or prosecution history.” *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) (citations and internal quotation marks omitted); *accord Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006) (“[C]laim differentiation can not broaden claims beyond their correct scope.”) (citation and internal quotation marks omitted). On balance, *Retractable* is distinguishable because the above-discussed specification disclosures and prosecution history are not so clear as Defendants have urged. *See Retractable*, 653 F.3d at 1305 (noting that disclosures “recite that ‘the invention’ has a body constructed as a single structure, expressly distinguish the invention from the prior art based on this feature, and only disclose embodiments that are expressly limited to having a body that is a single piece”).

As to the proper construction, Defendants’ proposal of “type of receiver” is vague and confusing because it is unclear whether “type” refers to the modulation method or to some other, unspecified characteristic of the receivers.

Also, Plaintiff properly argues that “encoding” is different than “modulation.” For example, Plaintiff submits that the word “encode” can be defined as “to encrypt” or as “to use a code, frequently one composed of binary numbers, to represent individual characters or groups of characters in a message.” *Id.*, Ex. 4, *Modern Dictionary of Electronics* 341 (6th ed. 1997); *id.*, Ex. 5, *Microsoft Press Computer Dictionary* 175 (3d ed. 1997); *see id.*, Ex. 11, John G. Proakis & Masoud Salehi, *Communication Systems Engineering* 8-11 (1994); *see also id.*, Ex. 12, Bernard Sklar, *Digital Communications: Fundamentals and Applications* 6-7 (1988).

“Modulation,” by contrast, is defined as a process of varying some characteristic of a carrier signal. See Dkt. No. 97, Ex. 3, *The IEEE Standard Dictionary of Electrical and Electronics Terms* 662 (6th ed. 1996) (“The process by which some characteristic of a carrier is varied in accordance with a modulating wave”); see also *id.*, Ex. 4, *Modern Dictionary of Electronics* 633 (6th ed. 1997) (“The process, or results of the process, whereby some characteristic of one signal is varied in accordance with another signal. The modulated signal is called the carrier and may be modulated in three fundamental ways: by varying the amplitude (amplitude modulation) by varying the frequency (frequency modulation) or by varying the phase (phase modulation.”); *id.*, Ex. 5, *Microsoft Press Computer Dictionary* 313 (3d ed. 1997) (“The process of changing or regulating the characteristics of a carrier wave vibrating at a certain amplitude (height) and frequency (timing) so that the variations represent meaningful information.”); *id.*, Ex. 6, D.K. Sharma, et al., *Analog & Digital Modulation Techniques: An Overview* 551 (2010) (“Modulation is the process of varying some parameter of a periodic waveform in order to use that signal to convey a message.”); Dkt. No. 102, Ex. 9 at RIP13523 (“Modulation is the process of encoding source data onto a continuous constant frequency signal i.e. carrier signal with frequency  $f_c$ .”). The specification, too, refers to a carrier in relevant contexts. See ‘580 Patent at 1:57 & 2:4. Finally, during oral argument as to the “different type” terms, Defendants themselves referred to modulating data onto a carrier.

Thus, even though Plaintiff itself included the word “encoding” in previously proposed constructions, Defendants’ proposals of “encoding” are rejected as tending to confuse rather than clarify the scope of the claims. See *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and



technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.”).

The Court, having rejected Defendants’ proposed constructions for the reasons set forth above, hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“first modulation method”	“a first method for varying one or more characteristics of a carrier signal in accordance with information to be communicated”
“second modulation method”	“a second method for varying one or more characteristics of a carrier signal in accordance with information to be communicated”

**B. “modulation method [] of a different type” and “different types of modulation methods”**

<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
“different families of modulation techniques”	“modulation methods that are incompatible with one another”

Dkt. No. 97 at 17; Dkt. No. 102 at 16. The parties submit that these terms appear in Claims 1 and 58 of the ‘580 Patent and Claims 1, 22, and 26 of the ‘228 Patent. Dkt. No. 81, Ex. A at 5.

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with the following preliminary construction for these disputed terms: “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” Plaintiff had no opposition to the preliminary construction. Defendants were opposed.

(1) The Parties' Positions

Plaintiff argues that during prosecution, the patentee defined these disputed terms by referring to “two types of modulation methods, *i.e.*, different families of modulation techniques.” Dkt. No. 97 at 18. Plaintiff further argues that “Defendants’ construction, which only requires ‘incompatibility,’ has no concept of a group of things having common characteristics. Such a construction effectively reads the word ‘type’ right out of the claims, rendering it superfluous.” *Id.* at 19-20.

Defendants respond:

As noted above [as to the “first” and “second” modulation methods], the whole purpose of the purported invention is to enable two (or more) trib modems to use different modulation methods on the same circuit. The crucial characteristic of the different modulation methods *vis-à-vis* one another is that they are incompatible. If they were compatible, there would be no problem for the patents to solve.

Dkt. No. 102 at 16. Defendants also note that the word “family” does not appear in the specification. *Id.* at 17. Defendants suggest that the patentee used the phrase “families of modulation techniques” only in prosecution history remarks—and not in the claims—because “[i]njecting that phrase into [a] claim would have rendered it plainly unsupported by the specification and opened this portion of the claim to a written description challenge.” *Id.* at 18. Defendants argue that Plaintiff’s authorities regarding the use of “*i.e.*” are applicable only to use of “*i.e.*” in the specification, not the prosecution history. *Id.* at 19. Defendants further argue that “Defendants’ construction[] gives full meaning to the word ‘type,’ by requiring incompatibility.” *Id.* Finally, Defendants submit that Plaintiff’s proposal of “families” “only raises the further question of what constitutes a family of modulation methods.” *Id.* at 20.

Plaintiff replies that the patentee’s definition in the prosecution history is supported by disclosures of FSK (frequency-shift keying) and QAM (quadrature amplitude modulation) in the

specification and in related applications cited by the specification. Dkt. No. 103 at 6. Plaintiff also argues that “nothing in the specification—certainly not the passages Defendants cite—reflects the kind of ‘clear and unmistakable’ intent necessary to depart from the ordinary meaning and define ‘type’ as ‘incompatibility.’” *Id.* at 6-7 (citing *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1366-67 (Fed. Cir. 2012)).

At the May 30, 2014 hearing, Defendants argued that “family” is a much broader term than “type” because modulation methods could be grouped together in any number of ways, such as analog as opposed to digital or phase modulation as opposed to frequency modulation. Defendants also argued that Plaintiff’s interpretation is inconsistent with dependent Claim 43 of the ‘228 Patent, which recites that “at least one” of the first and second modulation methods uses phase modulation.

Plaintiff responded by reiterating that Defendants’ proposed construction fails to give meaning to the constituent term “type.” Plaintiff also argued that Defendants’ proposal is overly restrictive because it could be read to mean that different FM radio stations use “incompatible” methods merely because they transmit at different frequencies. Plaintiff urged that the claims contemplate the use of non-incompatible modulation methods so long as they are different.

## (2) Analysis

The Summary section of the specification states: “Another advantage of the present invention is that a master transceiver can communicate seamlessly with tributary transceivers or modems using *incompatible modulation methods.*” *Id.* at 2:55-57 (emphasis added).

Nonetheless, “[t]he court’s task is not to limit claim language to exclude particular devices because they do not serve a perceived ‘purpose’ of the invention. . . . An invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that

invention be limited to encompass all of them.” *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003); accord *Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1345 (Fed. Cir. 2008) (discussing *E-Pass*). Defendants’ proposal that different “types” of modulation methods must be “incompatible” would improperly limit the claims to a preferred embodiment. See *Comark*, 156 F.3d at 1187.

Moreover, although it appears in the Summary of the specification as quoted above, the word “incompatible” is unclear and, as Plaintiff has argued, would tend to raise issues concerning the manner or degree of compatibility. Along those lines, uncertainty might arise as to whether modulation methods must be completely incompatible in all respects or could instead be partially compatible. At the May 30, 2014 hearing, the Court expressed concern as to the clarity of “incompatible.” Defendants responded that the disputed terms require that the modulation methods be different “waveforms,” different “ways to modulate” data onto a carrier, or simply “not the same.” These suggestions, however, merely restate that the methods are “different.” This adds little, if anything, to the disputed terms themselves, which recite “modulation method [] of a different type” and “different types of modulation methods.” Defendants’ proposal of “incompatible” is therefore rejected.

The Court turns to whether Plaintiff is correct that the patentee gave the disputed terms an “express definition.” Dkt. No. 97 at 19.

“The specification acts as a dictionary ‘when it expressly defines terms used in the claims or when it defines terms by implication.’” *Bell Atl. Network Servs.*, 262 F.3d at 1268 (quoting *Vitronics Corp.*, 90 F.3d at 1582). “When a patentee acts as his own lexicographer in redefining the meaning of particular claim terms away from their ordinary meaning, he must clearly express that intent in the written description. We have repeatedly emphasized that the statement in the

specification must have sufficient clarity to put one reasonably skilled in the art on notice that the inventor intended to redefine the claim term.” *Merck*, 395 F.3d at 1370 (citations omitted). “[A] patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.” *Vitronics*, 90 F.3d at 1582.

During prosecution, the patentee amended claims so as to add the word “type,” and the patentee stated:

Applicant thanks Examiner Ha for the indication that claims 1-18 and 37-57 are allowed (office action, p. 7). Applicant has further amended claims 1-2, 9-15, 18, 37-38, and 45-46 with additional recitations to more precisely claim the subject-matter. For example, the language of independent claim 1 has been clarified to refer to two *types* of modulation methods, *i.e.*, different families of modulation techniques, such as the FSK [(frequency shift keying)] family of modulation methods and the QAM [(quadrature amplitude modulation)] family of modulation methods.

Dkt. No. 97, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 20 (RIP3536); *see id.* at 7 (RIP3523) (amending claims). Generally, “*i.e.*” signals an explicit definition. *See, e.g., Abbott Labs. v. Novopharm Ltd.*, 323 F.3d 1324, 1327, 1330 (Fed. Cir. 2003) (finding that the patentee used “*i.e.*” to define a term not known in the art at the relevant time); *but see Pfizer, Inc. v. Teva Pharm., USA, Inc.*, 429 F.3d 1364, 1373 (Fed. Cir. 2005) (specification referred to “saccharides (*i.e.* sugars)” but also contained further discussion under a section titled “Saccharides,” and the court concluded that “the patentee clearly intended for this section to address the meaning of the same term”).

The significance of the patentee’s use of “*i.e.*” in the prosecution history—as opposed to in the specification—is perhaps less clear. On one hand, some authorities caution against relying upon potentially “self-serving” statements in the prosecution history. *See Biogen, Inc. v. Berlex Labs.*, 318 F.3d 1132, 1140 (Fed. Cir. 2003) (“Representations during prosecution cannot enlarge

the content of the specification, and the district court was correct in relying on the specification in analyzing the claims.”); *see also Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270 (Fed. Cir. 1986) (“For example, a Citation [of Prior Art] filed [with the PTO] during litigation might very well contain merely self-serving statements which likely would be accorded no more weight than testimony of an interested witness or argument of counsel. Issues of evidentiary weight are resolved on the circumstances of each case.”). Also, as Defendants have pointed out, dependent Claim 43 of the ‘228 Patent is at least somewhat at odds with Plaintiff’s interpretation to the extent that it would require that only one, instead of “at least one,” of the first and second modulation methods can be phase modulation.

On the other hand, a “claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification *or prosecution history*.” *CCS Fitness v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (emphasis added); *accord Home Diagnostics*, 381 F.3d at 1356; *Advanced Fiber Techs. (AFT) Trust v. J&L Fiber Servs., Inc.*, 674 F.3d 1365, 1374 (Fed. Cir. 2012); *see Vitronics*, 90 F.3d at 1582 (quoted above). Such authorities weigh in favor of construing the disputed term in accordance with the patentee’s express definition in the prosecution history.

At the May 30, 2014 hearing, Defendants urged that because the patentee’s definition was set forth after the examiner had indicated that the claims were allowable, the definition was self-serving and was not part of the usual back-and-forth negotiation that informs the meaning of claim terms. Plaintiff properly countered, however, that the patentee provided the definition in connection with amending some of the claims so as to introduce the word “types.” *See* Dkt. No. 97, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 20 (RIP3536) (quoted above); *see also id.* at 7 (RIP3523) (amending claims). Thus, to whatever extent Defendants are correct that

the prosecution history can only define a term in the context of developing allowable claims, the patentee's definition in this case can properly be considered.

The patentee's express definition is also consistent with disclosure in the specification of various categories of modulation methods. *See* '580 Patent at 2:1-8 ("some applications (e.g., internet access) require high performance modulation, such as quadrature amplitude modulation (QAM), carrier amplitude and phase (CAP) modulation, or discrete multitone (DMT) modulation"); *see also id.* at 5:17-20 (similar).

Such a definition is also consistent with the extrinsic dictionary definitions submitted by Plaintiff, which define "type" as "a class, kind, or group set apart by common characteristics" and "family" as "a group of things having common characteristics." Dkt. No. 97, Ex. 22, *Merriam-Webster's Dictionary and Thesaurus* 291, 858 (2007); *see id.*, Ex. 23, *The American Century Thesaurus* 129 (1995) (listing "type" as a synonym for "family").

On balance, the patentee's lexicography should be given effect in the Court's construction. *See Vitronics*, 90 F.3d at 1582; *see also Abbott Labs.*, 323 F.3d at 1327, 1330; *CCS Fitness*, 288 F.3d at 1366; *Advanced Fiber Techs.*, 674 F.3d at 1374. As to Defendants' concerns, any dispute regarding whether accused modulation techniques are from different "families" is a factual dispute regarding infringement rather than a legal dispute for claim construction. *See PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (noting that "the task of determining whether the construed claim reads on the accused product is for the finder of fact").

Nonetheless, although Plaintiff proposes merely "different families of modulation techniques," the patentee's definition in the prosecution history includes examples, namely "the

FSK family of modulation methods and the QAM family of modulation methods.”<sup>5</sup> Dkt. No. 97, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 20 (RIP3536). These examples provide useful context for understanding the phrase “different families” and, having been provided as part of the patentee’s definition, should be included in the Court’s construction.

The Court accordingly hereby construes **“modulation method [] of a different type”** and **“different types of modulation methods”** to mean **“different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.”**

**C. “communication[s] device,” “device that transmits,” and “logic configured to transmit”**

<b>“communication[s] device”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary; plain and ordinary meaning applies.  Alternatively: “a device that sends or receives information”	Samsung: “a device that sends or receives information over wires”  BlackBerry: “a device that sends or receives information over wires in a circuit-switched network”
<b>“device that transmits”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary; plain and ordinary meaning applies.  Alternatively: “a device that sends information”	Samsung: “a device that sends information over wires”  BlackBerry: “a device that sends information over wires in a circuit-switched network”

<sup>5</sup> The meanings of “FSK” and “QAM” do not appear to be in dispute.



<b>“logic configured to transmit”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
<p>No construction necessary; plain and ordinary meaning applies.</p> <p>Alternatively:                      “logic configured to send information”</p>	<p>Samsung:                      “logic configured to send information over wires”</p> <p>BlackBerry:                      “logic configured to send information over wires in a circuit-switched network”</p>

Dkt. No. 97 at 20; Dkt. No. 102 at 23. The parties submit that the first of these terms appears in Claims 1, 23, 32, and 58 of the ‘580 Patent and all asserted claims of the ‘228 Patent. Dkt. No. 81, Ex. A at 11. The parties further submit that the second of these terms appears in Claim 40 of the ‘580 Patent and that the third appears in Claims 49 and 54 of the ‘580 Patent. *Id.* at 14 & 16.

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “communication[s] device” means “a device that sends or receives information”; “device that transmits” means “a device that sends information”; and “logic configured to transmit” means “logic configured to send information.” Plaintiff had no objection to these preliminary constructions. Defendants were opposed.

(1) The Parties’ Positions

Plaintiff argues that “[t]he words in these terms do not have specialized meanings, have not been otherwise defined by the patentee, and are easily understood based on their ordinary meaning.” Dkt. No. 97 at 21. As to Defendants’ proposals of “wires” and a “circuit-switched network,” Plaintiff responds that such constructions are contrary to the recital in the claims of a

generic “communication medium.” *Id.* at 22. Plaintiff urges that the brief mention of wires in the specification is insufficient to redefine the disputed terms. *Id.* at 22-23. To the contrary, Plaintiff argues, during prosecution the patentee deleted text from the specification that referred to “lines.” *Id.* at 23. Finally, Plaintiff notes that the words “circuit” and “switched” do not appear in the claims or the written description. *Id.* at 24.

Defendants respond that “[w]ireless networks are never mentioned in the patents-in-suit,” despite wireless networks being well-known at the time the patent applications were filed, and “[t]he only example of a network mentioned in the text of the patents is a two-wired system of the prior art, upon which the alleged invention of the patents is an improvement.” Dkt. No. 102 at 23; *see id.* at 24. Defendants also express concern that Plaintiff’s proposed constructions “provide no boundaries, and as read could encompass a tin can connected to a string.” *Id.* at 24. Finally, Defendant Blackberry proposes that the claimed invention is limited to circuit-switched networks because, “by design,” “[d]evices on a packet-switched network can use different communication languages or modulation methods.” *Id.* at 25. Blackberry cites several extrinsic treatises in support of this proposition and concludes that “[p]ut simply, in a packet-switched network there is no compatibility problem for the patents to solve, and the purported invention is unnecessary.” *Id.* at 25-26.

Plaintiff replies that the patents-in-suit “do not limit the invention to wired or wireless ‘modems’/‘communication media’ because both were well-known at the time.” Dkt. No. 103 at 8 (citations and footnote omitted). Plaintiff also argues: “Defendants read too much into the Figures. Communications medium 94 is depicted as a line in Figs. 3-4, but that does not imply a wire any more than the absence of a line implies wireless.” *Id.* at 8 n.7. As to Blackberry’s proposal, Plaintiff replies that the patents-in-suit do not refer to “circuit-switched” or “packet-

switched” networks because “the patents-in-suit are not concerned with low-level network switching protocols, but rather with ‘sending transmissions modulated using at least two types of modulation methods.’” *Id.* (quoting ‘580 Patent at 2:30-31). Plaintiff also submits that “Blackberry has zero evidence to support its claim that devices on a packet-switched network can use different [] modulation methods by design.” *Id.* (quoting Dkt. No. 102 at 25).

At the May 30, 2014 hearing, Defendants again highlighted the use of a solid line in the Figures to illustrate the communication medium. Defendants argued that the appropriate way to illustrate wireless communication would have been with an antenna or with a series of three closely-spaced curved lines. Defendants also noted that the provisional patent application refers to a “two-wire” modem. *See* Dkt. No. 97, Ex. 13 at 5. Finally, Defendant Blackberry presented no oral argument on its proposals of “circuit-switched” and instead submitted its proposed constructions on the briefing.

## (2) Analysis

Although Plaintiff has proposed that no constructions are required, the parties have presented a “fundamental dispute regarding the scope of . . . claim term[s],” and the Court has a duty to resolve that dispute. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362-63 (Fed. Cir. 2008).

As a threshold matter, Defendants have not argued that their proposals of a wired network or a circuit-switched network are supported by anything within the claims at issue. The issue, then, is whether Defendants’ proposed limitations are adequately supported by anything in the specification or the extrinsic evidence cited by the parties.

As to Defendants’ proposals of requiring a wired network, the specification only once refers to wires:

The foregoing discussion is based on a two-wire, half-duplex multipoint system. Nevertheless, it should be understood that the concept is equally applicable to four-wire systems.

‘580 Patent at 4:51-54. This passage is insufficient to limit the claims to wired networks, particularly given that it refers to a discussion of only one or two of the Figures. *See id.* at 3:40-4:50; *see also Comark*, 156 F.3d at 1187. Moreover, Defendants have acknowledged that the “foregoing discussion” referred to in this passage is a discussion of “a two-wired system of the prior art.” Dkt. No. 102 at 23.

In several other instances, the specification refers to a “communication medium,” but those disclosures do not address whether the medium is wired or wireless. *See* ‘580 Patent at 2:52-54 (“One advantage of the present invention is that it provides to [*sic*, for] the use of a plurality of modem modulation methods on the same communication medium.”), 3:40-44 (“With reference to FIG. 1, a prior art multipoint communication system 22 is shown to comprise a master modem or transceiver 24, which communicates with a plurality of tributary modems (tribs) or transceivers 26-26 over communication medium 28.”) & 5:44-46 (“The master transceiver 64 communicates with trib 66 over communication medium 94.”).

Defendants also argue that Figures 3 and 4 depict a wired network because the “communication medium 94” is illustrated by either solid line connectors (Figure 3) or a solid line (Figure 4). *See* Dkt. No. 102 at 24. First, as Plaintiff has urged, any argument that solid lines cannot represent a wireless network is conclusory speculation. Second, even if Figures 3 and 4 were interpreted as depicting a wired network, “patent coverage is not necessarily limited to inventions that look like the ones in the figures. To hold otherwise would be to import limitations [i]nto the claim[s] from the specification, which is fraught with danger.” *MBO Labs. Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007).

Thus, the specification does not support limiting the claims to wired networks. This conclusion is reinforced by prosecution history in which the examiner rejected claims that recited a “communications device” and “logic configured to transmit” based on the “Siwiak” reference, which discloses a *wireless* communications system. Dkt. No. 97, Ex. 14, 9/1/2010 Office Action at 2-4 (RIP72-74); *id.*, Ex. 20 at 13 & 20 (RIP23 & RIP30) (application claims); *see id.*, Ex. 15, U.S. Pat. No. 5,537,398 (Siwiak) at 2:24-41 (“The messaging system includes a plurality of geographically distributed messaging transmitters, each comprising means for generating a radio frequency signal.”); *see also Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005) (“Statements about a claim term made by an Examiner during prosecution of an application may be evidence of how one of skill in the art understood the term at the time the application was filed.”). Finally, although the weight that the specification amendments should be given here is unclear, it is worth noting that the patentee *deleted* paragraphs from the specification that referred to “transmission *line* characteristics.” *Id.*, Ex. 9, 3/1/2011 Reply Pursuant to 37 CFR § 1.111 at 5-6 (RIP3521-22) (emphasis added).

As to extrinsic evidence, Plaintiff has submitted two news articles from the relevant time period that use the phrase “wireless modem.” Dkt. No. 103, Ex. 33, *Ericsson announces its M2190 OEM Wireless Modem, first PCMCIA modem for mobile data connectivity*, Business Wire, Nov. 2, 1994; *id.*, Ex. 34, *A Wireless Modem that Could Leave ‘Em in the Dust*, BusinessWeek, Feb. 24, 1997. Use of the word “modem” in the patents-in-suit is therefore insufficient to require a wired network. Finally, Plaintiff has submitted a dictionary definition of “medium,” in the context of “information transfer,” as not being limited to wires but rather being any “vehicle capable of transferring data.” Dkt. No. 97, Ex. 3, *The IEEE Standard Dictionary of Electrical and Electronics Terms* 643 (6th ed. 1996).

In sum, Defendants have failed to justify limiting the claims to wired networks. The Court therefore turns to the additional proposals by Defendant Blackberry.

Blackberry has submitted extrinsic evidence in support its argument that the claimed invention only has relevance in circuit-switched networks, not packet-switched networks. Dkt. No. 102, Ex. 11, Gurdeep S. Hura & Mukesh Singhal, *Data and Computer Communications: Networking and Internetworking* 130-31 (2001) (“In the case of packet-switched networks, stations with different data rates can communicate with each other, and the necessary conversion between different data rates is done by the network, while in the case of circuit-switched networks, both stations must have the same data rate.”); *id.*, Ex. 12, William Stallings, *Data and Computer Communications* 254-55 (5th ed. 1997) (“In [a] circuit-switching network, the connection provides for transmission at a constant data rate. Thus, each of the two devices that are connected must transmit and receive at the same data rate as the other . . . .”; “A packet-switching network can perform data-rate conversions. Two stations of different data rates can exchange packets because each connects to its node at its proper data rate.”); *id.*, Ex. 13, Youlu Zheng & Shakil Akhtar, *Networks for Computer Scientists and Engineers* 125 (2002) (“Whereas . . . two networks connected by a circuit switch must operate at the same speed, packet switching can connect networks operating at different speeds.”).

A circuit-switched network, at least in the context of Blackberry’s proposals, appears to be a species of wired network. The Court therefore rejects Blackberry’s proposals based on the Court’s rejection of Defendants’ proposals of “over wires,” above.

Alternatively, even if Blackberry is proposing a circuit-switched network limitation that can be either wired or wireless, Blackberry’s above-cited reliance on extrinsic evidence is disfavored. *See Phillips*, 415 F.3d at 1322 (“There is no guarantee that a term is used in the same

way in a treatise as it would be by the patentee. In fact, discrepancies between the patent and treatises are apt to be common because the patent by its nature describes something novel.”).

As to Blackberry’s reliance on the purpose of the invention (avoiding the inefficiencies of requiring all devices to use the same modulation method), Blackberry is correct as a general matter that “the problem the inventor was attempting to solve, as discerned from the specification and the prosecution history, is a relevant consideration.” *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1160 (Fed. Cir. 1997).

Nonetheless, “[t]he court’s task is not to limit claim language to exclude particular devices because they do not serve a perceived ‘purpose’ of the invention. . . . An invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them.” *E-Pass*, 343 F.3d at 1370; *accord Howmedica*, 540 F.3d at 1345 (discussing *E-Pass*).

Blackberry has also cited *Applied Materials, Inc. v. Advanced Semiconductor Materials America, Inc.*, 98 F.3d 1563, 1573 (Fed. Cir. 1996). In *Applied Materials*, the patent specification disclosed a problem of electrostatic contamination in the context of a “cold purge” from a chamber:

As explained in the . . . specification, static charges are not a problem during subsequent purges of the chamber because after the initial steps the temperature of the chamber remains above about 180° C, the temperature above which static charges do not exist.

In the invention of the . . . patent, static charges during the initial “cold” purges are eliminated by operating the lamps at a low level during the initial gas flow steps.

\* \* \*

The district court found that “cold purge process” means temperatures below 180° C, and that the . . . invention was directed to the use of heat sufficiently high to remove electrostatic contamination in the initial purge steps, that is, heat above

about 180° C, in a reactor whose operating conditions include temperatures below 180° C. “Cold purge” is interpreted in light of the problem the . . . patent solved: the elimination of electrostatic contamination during the initial purge step.

*Id.* at 1571, 1573. The limitation imposed in *Applied Materials* was thus founded on *intrinsic* disclosures regarding circumstances in which the stated problem presented itself. Here, by contrast, Blackberry relies upon *extrinsic* evidence in support of the proposed “circuit-switched” limitation. The patents-in-suit contain no reference to circuit-switched networks. *Applied Materials* is therefore distinguishable.

The Court accordingly rejects Defendants’ proposed “over wires” and “circuit-switched” limitations. The parties are otherwise in agreement as to the proper meaning of the disputed terms, as set forth by Plaintiff’s alternative proposed constructions. Although the plain and ordinary meaning of the disputed terms may well be readily understandable once Defendants’ proposed limitations have been rejected, the existence of common ground in the parties’ proposals is notable and should be given effect.

As to Defendants’ statement that Plaintiff’s proposals would “encompass a tin can connected to a string” (Dkt. No. 102 at 24), Defendants’ concern is unwarranted because other claim language appropriately limits the scope of the claims. Further, to whatever extent Defendants’ concern relates to validity, such arguments are of limited relevance during claim construction proceedings. *See Phillips*, 415 F.3d at 1327 (“[W]e have certainly not endorsed a regime in which validity analysis is a regular component of claim construction.”).

For all of these reasons, the Court hereby construes the disputed terms as set forth in the following chart:



<u>Term</u>	<u>Construction</u>
“communication[s] device”	“a device that sends or receives information”
“device that transmits”	“a device that sends information”
“logic configured to transmit”	“logic configured to send information”

**D. “training signal” and “trailing signal”**

<b>“training signal”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
“a transmission that signifies the beginning of a communication session”	“a distinct transmission that establishes properties of a subsequent data transmission and that can have a different intended destination from the subsequent data transmission”
<b>“trailing signal”</b>	
<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
“a transmission that signifies the end of a communication session”	“a distinct transmission that follows a data transmission and that can have a different intended destination from the data transmission”

Dkt. No. 97 at 24; Dkt. No. 102 at 20. The parties submit that the first of these disputed terms appears in dependent Claims 29, 31, and 36 of the ‘228 Patent. Dkt. No. 81, Ex. A at 20. The parties submit that the second of these disputed terms appears in dependent Claim 51 of the ‘228 Patent. *Id.* at 21.

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “training signal” means “a

transmission that signifies the beginning of a transmission sequence and determines one or more properties of the transmission sequence”; and “trailing signal” means “a transmission that signifies the end of a transmission sequence.” Plaintiff had no opposition to these preliminary constructions. Defendants were opposed.

(1) The Parties’ Positions

Plaintiff argues that Defendants’ proposals “improperly limit the claims to part of a preferred embodiment, in which some training and trailing signals ‘can have a different intended destination from the subsequent data transmission.’” Dkt. No. 97 at 25. Plaintiff explains that “[w]hile in a preferred embodiment some of the training and trailing signals have a different intended destination than the data transmission, others do not.” *Id.* at 26 (discussing ‘580 Patent at Figure 8). Plaintiff also argues that Defendants’ proposal of “distinct” is vague and “has zero support in the record.” Dkt. No. 97 at 25 & 27. Plaintiff submits that “[t]he specification focuses on the order and function of the components—not their ‘distinctness.’” *Id.* at 27.

As to “training signal,” Defendants respond that the “capab[ility] of having a different intended destination from the subsequent data transmission” is “central to the alleged invention.” Dkt. No. 102 at 20. Defendants explain:

[T]he purpose of the purported invention is to enable two (or more) tribes to use different modulation methods on the same circuit. The alleged invention accomplishes this via a training signal. When the master intends to send data to a type B tribe, it first sends a training signal to the type A tribe. [‘580 patent] at 6:3-6. The training signal notifies the type A tribe that the master will switch to type B modulation. *Id.* In response to the training signal, the type A tribe temporarily stops listening to signals on the line. *Id.* at 6:41-46. The master then transmits data to the type B tribe using type B modulation. *Id.* at 6:8-12.

Since the type A tribe is not listening during the type B transmission, the type A tribe — which does not understand type B modulation — does not attempt to decode the type B transmission. This avoids errors and delays caused by tribes trying to decode signals they do not understand. Moreover, the type B tribe never

receives the training signal, because it is only sent using type A modulation, which the type B trib does not understand. *See id.* at 5:67-6:2.

Dkt. No. 102 at 21. As to their proposal of a “distinct” transmission, Defendants argue that the specification “uniformly depicts the training signal as a discrete communication.” *Id.* at 22 (citing ‘580 Patent at Fig. 5).

As to “trailing signal,” Defendants respond that “the specification teaches that, just as the training signal notifies a type A trib of an impending change to type B modulation, the trailing signal notifies the type A trib that the type B data transmission is over. The trailing signal must be capable of having a different intended destination from the corresponding data transmission for the same reasons as the training signal.” Dkt. No. 102 at 22 (citing ‘580 Patent at 6:16-19). Finally, Defendants emphasize that their proposals “state that the training and trailing signals ‘*can* have’ different intended destinations from the intervening data transmissions, not that they must.” *Id.* at 23.

Plaintiff replies that although one of the disclosed embodiments is consistent with Defendants’ proposed constructions, Figure 8 illustrates a “communication session 170” in which “the training signal, communication signal, and trailing signal all have the same intended destination—the Type A transceiver.” Dkt. No. 103 at 9. Finally, Plaintiff argues that “the specification focuses on the order and function of the transmitted components, not whether they are ‘distinct.’” *Id.*

At the May 30, 2014 hearing, Defendants reiterated that the destinations need not necessarily be different. Nonetheless, Defendants explained, that capability is a limitation because the central purpose of a training signal is to instruct a trib to ignore a subsequent transmission. Defendants also submitted that they would be amenable to substituting the word “discrete” for the word “distinct” in Defendants’ proposed constructions.

Plaintiff responded that a “training signal” can also be useful for enabling a master to change modulation methods when communicating with a bilingual trib, perhaps to overcome interference by using a more robust modulation method.

(2) Analysis

The disputed terms appear in Claims 29, 31, 36, and 51 of the ‘228 Patent, which recite (emphasis added):

29. The master communication device as in claim 26, wherein the first transmission sequence includes a *training signal*.

\* \* \*

31. The master communication device as in claim 29, wherein the *training signal* establishes signal level compensation.

\* \* \*

36. The master communication device as in claim 29, wherein the *training signal* includes parameters for the selection of optional features.

\* \* \*

51. The master communication device as in claim 26, wherein the master communication device is configured to transmit a *trailing signal* to complete the master communication transmission.

Nothing in these dependent claims requires that the recited “training signal” or “trailing signal” must be capable of having a different intended destination than the data transmission.

Claims 31 and 36 depend from Claim 29, which in turn depends from independent Claim 26.

Claim 26 recites the antecedent basis for “the first transmission sequence” recited in Claim 29

(emphasis added; formatting modified):

26. A master communication device configured to communicate according to a master/slave relationship in which a slave communication from a slave device to the master communication device occurs in response to a master communication from the master communication device to the slave device, the master communication device comprising:

a transceiver configured to *transmit signals over a communications medium to a slave device using at least two different types of modulation methods* and to receive one or more responses over the communication medium that comprise at least respective response data that is modulated according to one of the at least two different types of modulation methods, the at least two different types of modulation methods comprising a first modulation method and a second modulation method,

wherein the transmitted signals comprise first transmitted signals and second transmitted signals,

*the first transmitted signals comprise at least two transmission sequences, the at least two transmission sequences include a first transmission sequence and a second transmission sequence,*

*the transceiver is configured to transmit the first transmission sequence using the first modulation method, and*

*the transceiver is configured to transmit the second transmission sequence using the second modulation method* wherein:

*the first transmission sequence includes information that is indicative of an impending change in modulation method from the first modulation method to the second modulation method,*

*the second transmission sequence includes a payload portion that is transmitted after the first transmission sequence,*

*the first transmitted signals include first address information that is indicative of the slave device being an intended destination of the payload portion,*

*the second transmitted signals comprise at least a third transmission sequence and a fourth transmission sequence,*

*the transceiver is configured to transmit the third transmission sequence using the first modulation method,*

*the transceiver is configured to transmit the fourth transmission sequence using the first modulation method,*

*the third transmission sequence includes information indicative that the fourth transmission sequence will be transmitted using the first modulation method,*

*the fourth transmission sequence includes a second payload portion that is transmitted after the third transmission sequence, and*

*the second transmitted signals include second address information that is indicative of a specified slave device being an intended destination of the second payload portion.*

Claim 26 thus recites “first transmitted *signals*” that include a “first transmission *sequence*” using a first modulation method and a “second transmission *sequence*” using a second modulation method. The “first transmission *sequence*” indicates a change from the first modulation method to the second modulation method, and “the second transmission *sequence*

includes a payload portion that is transmitted after the first transmission sequence.” The “first transmitted *signals*” also “include first address information that is indicative of the slave device being an intended destination of the payload portion.” Claim 26 further recites “second transmitted signals” with limitations comparable to those of the “first transmitted signals,” except that both transmission sequences are transmitted using the first modulation method.

Nowhere does Claim 26 recite that the first transmission sequence must be able to have an intended destination different from that of the subsequent payload. Claim 26 thus contains no support for imposing any such limitation on the “training signal” that is recited in dependent Claims 29, 31, and 36. Similarly, nothing in the claims suggests any such limitation as to the “trailing signal” recited in Claim 51.

Defendants have submitted that, in some cases, disclosure of a critical feature for achieving a central objective can warrant limiting the claims accordingly. *See Alloc*, 342 F.3d at 1369-70 (noting that the “specification . . . criticizes prior art floor systems without play” and finding that the “specification read as a whole leads to the inescapable conclusion that the claimed invention must include play in every embodiment”); *see also Honeywell Int’l, Inc. v. ITT Indus.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (“The written description’s detailed discussion of the prior art problem addressed by the patented invention, viz., leakage of non-metal fuel filters in EFI [(electronic fuel injection)] systems, further supports the conclusion that the fuel filter is not a preferred embodiment, but an only embodiment.”).

This is not such a case. The specification uses the terms “training signal,” “training sequence,” “trailing signal,” and “trailing sequence” several times but does not mandate that such signals or sequences be capable of having a different intended destination than a data transmission. For example, the specification discloses:

[B]efore any communication can begin in [prior art] multipoint system 22, the master transceiver and the tribs 26-26 must agree on a common modulation method. If a common modulation method is found, the master transceiver 24 and a single trib 26 will then exchange sequences of signals that are particular subsets of all signals that can be communicated via the agreed upon common modulation method. These sequences are commonly referred to as *training signals* and can be used for the following purposes: 1) to confirm that the common modulation method is available, 2) to establish received signal level compensation, 3) to establish time recovery and/or carrier recovery, 4) to permit channel equalization and/or echo cancellation, 5) to exchange parameters for optimizing performance and/or to select optional features, and 6) to confirm agreement with regard to the foregoing purposes prior to entering into data communication mode between the users. In a multipoint system, the address of the trib with which the master is establishing communication is also transmitted during the training interval. At the end of a data session a communicating pair of modems will typically exchange a sequence of signals known as *trailing signals* for the purpose of reliably stopping the session and confirming that the session has been stopped. In a multipoint system, failure to detect the end of a session will delay or disrupt a subsequent session.

Referring now to FIG. 2, an exemplary multipoint communication session is illustrated through use of a ladder diagram. This system uses polled multipoint communication protocol. That is, a master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected. At the beginning of the session, the master transceiver 24 establishes a common modulation as indicated by sequence 32 that is used by both the master 24 and the tribs 26a, 26b for communication. Once the modulation scheme is established among the modems in the multipoint system, [t]he master transceiver 24 transmits a *training sequence 34* that includes the address of the trib that the master seeks to communicate with. In this case, the *training sequence 34* includes the address of trib 26a. As a result, trib 26b ignores *training sequence 34*. After completion of the *training sequence 34*, master transceiver 24 transmits data 36 to trib 26a followed by *trailing sequence 38*, which signifies the end of the communication session. Similarly, with reference to FIG. 8, the sequence 170 illustrates a Type A modulation *training signal*, followed by a Type A modulation data signal. Note that trib 26b ignores data 36 and *trailing sequence 38* as it was not requested for communication during *training sequence 34*.

At the end of *trailing sequence 38*, trib 26a transmits *training sequence 42* to initiate a communication session with master transceiver 24. Because master transceiver 24 selected trib 26a for communication as part of *training sequence 34*, trib 26a is the only modem that will return a transmission. Thus, trib 26a transmits data 44 destined for master transceiver 24 followed by *trailing sequence 46* to terminate the communication session.

The foregoing procedure is repeated except master transceiver identifies trib 26b in *training sequence 48*. In this case, trib 26a ignores the *training sequence 48* and the subsequent transmission of data 52 and *trailing sequence 54* because it does not recognize its address in *training sequence 48*. Master transceiver 24 transmits data 52 to trib 26b followed by *trailing sequence 54* to terminate the communication session. Similarly, with reference to FIG. 8, sequence 172 illustrates a Type A modulation signal, with notification of a change[] to Type[] B, followed by a Type[] B modulation data signal. To send information back to master transceiver 24, trib 26b transmits *training sequence 56* to establish a communication session. Master transceiver 24 is conditioned to expect data only from trib 26b because trib 26b was selected as part of *training sequence 48*. Trib 26b transmits data 58 to master transceiver 24 terminated by *trailing sequence 62*.

‘228 Patent at 4:3-5:7 (emphasis added).

Referring now to FIG. 4, a multipoint communication system 100 is shown comprising a master transceiver 64 along with a plurality of tribs 66-66. In this example, two tribs 66a-66a run a type A modulation method while one trib 66b runs a type B modulation method. The present invention permits a secondary or embedded modulation method (e.g., type B) to replace the standard modulation method (e.g., type A) after an initial *training sequence*. This allows the master transceiver 64 to communicate seamlessly with tribs of varying types.

\* \* \*

To switch from type A modulation to type B modulation, master transceiver 64 transmits a *training sequence 106* to type A tribs 66a in which these tribs are notified of an impending change to type B modulation. The switch to type B modulation could be limited according to a specific time interval or for the communication of a particular quantity of data. After notifying the type A tribs 66a of the change to type B modulation, master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b. In an example, embedded modulation permits a secondary modulation to replace the usual primary modulation for a user data segment located after a primary training sequence. For example, master transceiver 64 may change to modulation Type B and may convey user information to type B trib 66b.

*Id.* at 6:4-13 & 6:27-44 (emphasis added).

*To initiate a communication session with a type A trib 66a, master transceiver 64 transmits a training sequence 126 in which an address of a particular type A trib 66a is identified. The identified type A trib 66a recognizes its own address and transitions to state 128 to receive data from master transceiver 64 as part of sequence 132.*



After completing transmission sequence 132, which may include a user data segment transmitted using the usual primary (e.g., type A) modulation, master transceiver 64 transmits a *trailing sequence 134* using type A modulation signifying the *end of the current communication session*.

*Id.* at 7:11-21 (emphasis added). Contrary to Defendants' arguments, the specification does not establish that the sole purpose of a training signal, for example, must be to notify a trib that the trib will not understand the subsequent data transmission because that data is intended for a different trib. *See* Dkt. No. 102 at 21-22.

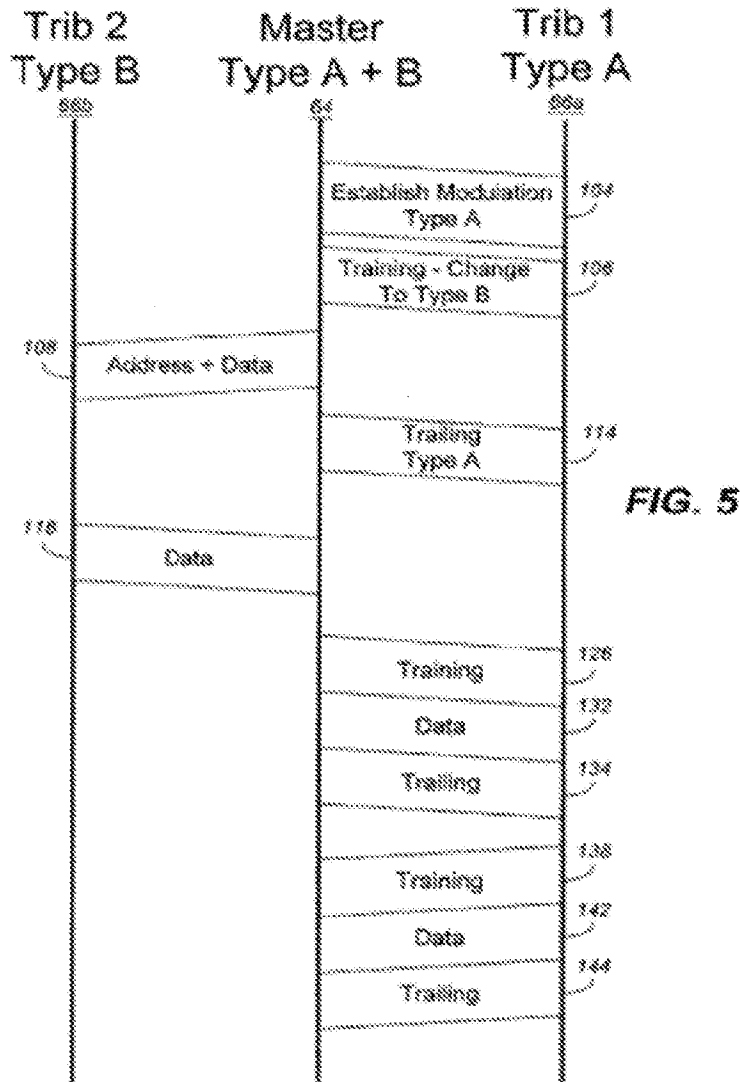
As to extrinsic evidence, Plaintiff has cited a dictionary definition of "header" as: "Identification or control information placed at the beginning of a file or message. *Contrast*: trailer." Dkt. No. 97, Ex. 3, *The IEEE Standard Dictionary of Electrical and Electronics Terms* 479 (1996). Plaintiff has also cited definitions of "trailer" as: "Identification or control information placed at the end of a file or message. *Contrast*: header"; and "The contiguous control bits following a transmission that contain information used for such purposes as bit error detection and end-of-transmission indication. *Contrast*: header." *Id.* at 1126.

The claims, specification, and extrinsic evidence are therefore all consistent with Plaintiff's proposal that a "training signal" marks the beginning of a communication session and a "trailing signal" marks the end of a communication session.

As to Defendants' proposals, Defendants have not argued that "training signal" and "trailing signal" are coined terms that the patentee defined in relation to what Defendants have argued is the sole purpose of the invention. To the extent that the specification discloses training and trailing signals that have destinations different from those of associated data transmissions, that capability is a feature of preferred embodiments and should not be imported into the claims. *See Comark*, 156 F.3d at 1187 ("[The specification] simply details how the video delay circuit is

to be used in a single embodiment of the invention.”). The Court therefore rejects Defendants’ argument that the “training signal” and “trailing signal” must be capable of having a different intended destination than an associated data transmission.

Similarly, as noted above, Defendants have relied upon items 106, 126, and 138 in Figure 5 to support their argument that the “training signal” and “trailing signal” must be “distinct” or “discrete” transmissions. Figure 5 is reproduced here:



Defendants have failed to demonstrate that this illustration of a preferred embodiment is limiting. *See MBO Labs.*, 474 F.3d at 1333 (“patent coverage is not necessarily limited to inventions that look like the ones in the figures”). Defendants’ proposals in this regard are therefore rejected.

As to the proper constructions, Plaintiff’s use of the word “signifies” is supported by the specification, particularly as to the term “trailing signal.” *See* ‘228 Patent at 4:43-45 (“master transceiver 24 transmits data 36 to trib 26a followed by trailing sequence 38, which signifies the end of the communication session”) & 7:19-21 (“master transceiver 64 transmits a trailing sequence 134 using type A modulation signifying the end of the current communication session”). The above-quoted disclosures demonstrate that a “training signal” should be construed in a similar manner.

Finally, at the May 30, 2014 hearing, Plaintiff had no objection to Defendants’ proposal that a “training signal” must “establish[] properties of a subsequent data transmission.”

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“training signal”	<b>“a transmission that signifies the beginning of a transmission sequence and determines one or more properties of the transmission sequence”</b>
“trailing signal”	<b>“a transmission that signifies the end of a transmission sequence”</b>

**E. “signal level compensation”**

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“adjusting signal parameters in the receiver” <sup>6</sup>	“adjusting the amplitude characteristics of a receiver”

Dkt. No. 97 at 27; Dkt. No. 102 at 26. The parties submit that this term appears in Claim 31 of the ‘228 Patent. Dkt. No. 81, Ex. A at 19.

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with the following preliminary construction for this disputed term: “adjusting signal parameters in the receiver.” Plaintiff had no opposition to the Court’s preliminary construction. Defendants were opposed.

(1) The Parties’ Positions

Plaintiff argues that “just as there are many different ‘signal levels’—Defendants’ dictionary acknowledges ‘voltage, current, power, phase shift, or frequency,’ to name a few—there are many different ways to compensate those signal levels. For example, the frequency or phase shift of a signal may be compensated independent of the signal’s amplitude.” Dkt. No. 97 at 28.

Defendants respond that “[t]echnical dictionaries [(quoted below)] define ‘signal level’ as the strength or power of a signal.” Dkt. No. 102 at 26. Defendants argue that Plaintiff’s proposed construction “fails to give meaning to the word ‘level.’” *Id.* at 27. Defendants explain that “frequency represents the number of signal cycles in a given time period, and phase reflects the signal’s position on the x-axis (time). These are not measures of the signal’s ‘level,’ *i.e.*, its

---

<sup>6</sup> Plaintiff previously proposed: “adjusting signal parameters in the receiver to minimize receiving errors.” Dkt. No. 81, Ex. A at 19.

strength or power.” *Id.* Defendants argue that their multiple, unambiguous dictionary definitions outweigh Plaintiff’s “lone and secondary definition.” *Id.* at 28.

Plaintiff replies that the extrinsic dictionary definitions cited by the parties do not limit “signal level” to “amplitude.” Dkt. No. 103 at 10.

At the May 30, 2014 hearing, Defendants acknowledged that frequency and phase are characteristics that may be said to have a “level,” but Defendants maintained that a person of ordinary skill in the art at the relevant time would have understood “signal level” as referring to amplitude. Plaintiff responded that none of the evidence cited by Defendants refers to “amplitude.” Defendants replied that they would have no objection to a construction that referred to “strength” instead of “amplitude.” Defendants nonetheless reiterated that in no event should the disputed term encompass frequency or phase.

## (2) Analysis

Claim 31 of the ‘228 Patent recites:

31. The master communication device as in claim 29, wherein the training signal establishes signal level compensation.

Claim 31 depends from Claim 29 and, in turn, Claim 26, but nothing in these claims informs the meaning of “signal level compensation.” Likewise, the specification identifies “signal level compensation” as one of the uses of training signals (*see* ‘580 Patent at 3:53-56), but the specification does not otherwise discuss the term.

Plaintiff submits a technical dictionary definition of “compensation” as: “The controlling elements which compensate for, or offset, the undesirable characteristics of the process to be controlled in the system.” *Id.*, Ex. 4, *Modern Dictionary of Electronics* 184 (6th ed. 1997). This aspect of the disputed term does not appear to be in dispute. Instead, the parties disagree on the scope of the term “signal level.”

Plaintiff has cited a technical dictionary definition of “signal level” as: “The magnitude of a signal parameter or element, such as the magnitude of the electric field strength, voltage, current, power, phase shift, or frequency.” Dkt. No. 97, Ex. 27, *Communications Standard Dictionary* 906 (3d ed. 1996). As Defendants have noted, however, that same dictionary alternatively defines “signal level” as: “A measure of the power of a signal at a specified point in a communications system.” *Id.*

Defendants have also submitted additional dictionaries that define “signal level” in terms of power. Dkt. No. 102, Ex. 14, *Dictionary of Communications Technology* 401 (2d ed. 1995) (“The strength of a signal, generally expressed in either units of voltage or power.”); *id.*, Ex. 15, *Newton’s Telecom Dictionary* 544 (11th ed. 1996) (“The strength of a signal, generally expressed in either absolute units of voltage or power, or in units relative to the strength of the signal at its source.”); *id.*, Ex. 16, *Dictionary of Telecommunications* 250 (1981) (“The magnitude of a signal at a point in a telecommunication circuit. This can be expressed as an absolute power level in decibels relative to one milliwatt (dBm).”) (italics omitted).

In reply, Plaintiff has cited extrinsic articles that refer to signal “frequency level” and signal “phase level.” Dkt. No. 103, Ex. 38, Hamid Nawab, et al., *Diagnosis Using the Formal Theory of a Signal-Processing System* 373 (1987); *id.*, Ex. 39, Marco Antonio Chamon & Gerard Salut, *Particle Filtering of Radar Signals for Non-Cooperating Target Imaging* 1041 (1998); *see id.*, Ex. 40, U.S. Pat. No. 3,953,798 at 3:56-63. Plaintiff argues these articles establish that frequency and phase can each have a “level.”

These competing definitions and usages demonstrate why extrinsic sources must be considered with caution. *See Phillips*, 415 F.3d at 1321 (“[H]eavy reliance on the dictionary divorced from the intrinsic evidence risks transforming the meaning of the claim term to the

artisan into the meaning of the term in the abstract, out of its particular context, which is the specification. \* \* \* [T]here may be a disconnect between the patentee’s responsibility to describe and claim his invention, and the dictionary editors’ objective of aggregating all possible definitions for particular words.”); *see also id.* at 1322 (“There is no guarantee that a term is used in the same way in a treatise as it would be by the patentee. In fact, discrepancies between the patent and treatises are apt to be common because the patent by its nature describes something novel.”).

On balance, because the specification refers to “phase . . . modulation” as well as “amplitude modulation” (*see id.* at 2:5-6), the Court rejects Defendants’ reliance on extrinsic evidence and accordingly rejects Defendants’ proposal to limit the disputed term to amplitude. *See Phillips*, 415 F.3d at 1321.

The Court therefore hereby construes “**signal level compensation**” to mean “**adjusting signal parameters in the receiver.**”

**F. “a first portion of the first communication indicating that the second modulation method will be used for modulating the payload data in the payload portion of the first communication”**

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning applies.	“a first portion of the first communication indicating that the second modulation method will be used instead of the first modulation method for modulating the payload data in the payload portion of the first communication”

Dkt. No. 97 at 29; Dkt. No. 102 at 28. The parties submit that this term appears in Claim 22 of the ‘228 Patent. Dkt. No. 81, Ex. A at 21.

Shortly before the start of the May 30, 2014 hearing, the Court provided the parties with the following preliminary construction for this disputed term: “Plain meaning.”

(1) The Parties' Positions

Plaintiff argues that “[t]he plain and ordinary meaning of the instant term is apparent on its face and from the context of the surrounding claim language.” Dkt. No. 97 at 29. Plaintiff further argues that Defendants’ proposed construction “inject[s] an ‘instead of the first modulation method’ limitation” that “is unnecessary, because it does not help to clarify or explain the meaning of the instant term.” *Id.* at 30.

Defendants respond that “[t]he specification discloses a training signal that indicates a *change* to a different modulation method.” Dkt. No. 102 at 28. Defendants argue: “Claim 22 therefore must be construed to require an indication of an impending *change* to a second modulation method (*i.e.*, that “the second modulation method will be used instead of the first modulation method”), not simply that a second modulation method will be used.” *Id.* at 29. Defendants conclude that “[p]ermitting the claim to encompass a mere indication of the forthcoming modulation method, rather than a *change* to that method, would result in a failure of both the written description and enablement requirements under [35 U.S.C.] Section 112(a).” *Id.* at 30.

Plaintiff replies that “Defendants’ construction adds unnecessary verbiage to an unambiguous claim.” Dkt. No. 103 at 10.

At the May 30, 2014 hearing, Plaintiff acknowledged that the disputed term and the surrounding claim language require a change from one modulation method to another modulation method. Plaintiff maintained that because this is clear on the face of the claim, no construction is necessary. Plaintiff concluded that Defendants’ proposed construction should be rejected as tending to introduce a new limitation or as otherwise confusing the meaning of the



claim. Defendants responded that clarification is warranted because the entire purpose of the purported invention is to notify and then to change modulation methods.

(2) Analysis

The Summary of the Invention refers to a “change in modulation”:

The present invention disclosed herein includes methods and systems for communication of data according to a communications method in which a master transceiver communicates with one or more slave transceivers according to a master/slave relationship.

\* \* \*

The second message may comprise third information (e.g., first information of the second message/high data rate message), and the third information may be modulated according to the *first modulation method*. The third information may be indicative of an impending *change in modulation to a second modulation method* for transmission of fourth information (e.g., second information of the second message/high data rate message).

‘228 Patent at 2:27-31 & 2:51-56 (emphasis added). The specification similarly discloses:

To *switch from type A modulation to type B modulation*, master transceiver 64 transmits a training sequence 106 to type A tribes 66a in which these tribes are notified of an impending *change* to type B modulation. The *switch to type B modulation* could be limited according to a specific time interval or for the communication of a particular quantity of data. After notifying the type A tribes 66a of the change to type B modulation, master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b. In an example, embedded modulation permits a *secondary modulation to replace the usual primary modulation* for a user data segment located after a primary training sequence. For example, master transceiver 64 may *change* to modulation Type B and may convey user information to type B trib 66b. The type B trib 66b targeted by the master transceiver 64 will transition to state 112 as shown in FIG. 6 upon detecting its own address where it processes the data transmitted in sequence 108.

*Id.* at 6:27-44 (emphasis added); *see id.* at Figs. 5, 7 & 8 (illustrating “Change to Type B”).

Claim 22 of the ‘228 Patent, which is the only claim that contains the disputed term, recites (emphasis added):

22. A communication device configured to communicate according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

a transceiver in the role of the master according to the master/slave relationship that is configured to send at least a plurality of communications, wherein each communication from among said plurality of communications comprises at least a respective *first portion* and a respective payload portion, wherein each communication from among said plurality of communications is addressed for an intended destination of the respective payload portion of that communication, and wherein *for each communication from among said plurality of communications*:

said respective *first portion is modulated according to a first modulation method* from among at least two types of modulation methods, wherein the at least two types of modulation methods comprise the first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,

said respective first portion comprises an indication of which of the first modulation method and the second modulation method is used for modulating respective payload data in the respective payload portion, and

the payload data is modulated according to at least one of the first modulation method or the second modulation method in accordance with what is indicated by the respective first portion;

the transceiver further configured to send at least a first communication of the plurality of communications such that payload data included in a payload portion of the first communication is modulated according to the second modulation method based on *a first portion of the first communication indicating that the second modulation method will be used for modulating the payload data in the payload portion of the first communication*, wherein the payload data is included in the first communication after the first portion of the first communication;

the transceiver further configured to send at least a second communication of the plurality of communications such that payload data included in a payload portion of the second communication is modulated according to the first modulation method based on a first portion of the second communication indicating that the first modulation method will be used for modulating the payload data in the payload portion of the second communication.

On balance, the recital that the “first portion is modulated according to a first modulation method”—coupled with the recital in the disputed term that “the second modulation method will

be used for modulating the payload data in the payload portion of the first communication”——is clear on its face.

Further, as noted above, Plaintiff has agreed that the disputed term and the surrounding claim language require a change from one modulation method to another modulation method.

Defendants’ proposed clarification is therefore unnecessary and would tend to confuse rather than clarify the scope of the claim. *See U.S. Surgical*, 103 F.3d at 1568 (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); *see also O2 Micro*, 521 F.3d at 1362 (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) (“Unlike *O2 Micro*, where the court failed to resolve the parties’ quarrel, the district court rejected Defendants’ construction.”).

The Court accordingly hereby expressly rejects Defendants’ proposed construction and hereby construes **“a first portion of the first communication indicating that the second modulation method will be used for modulating the payload data in the payload portion of the first communication”** to have its **plain meaning**.

#### CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit.

The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by

the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

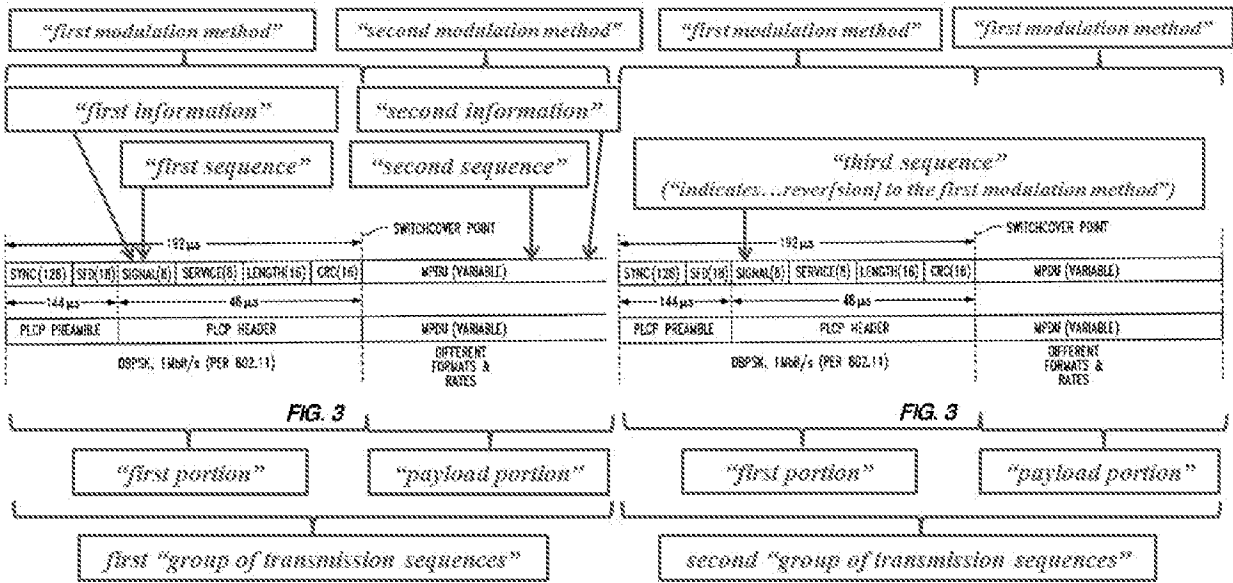
**SIGNED this 10th day of July, 2014.**

  
ROY S. PAYNE  
UNITED STATES MAGISTRATE JUDGE

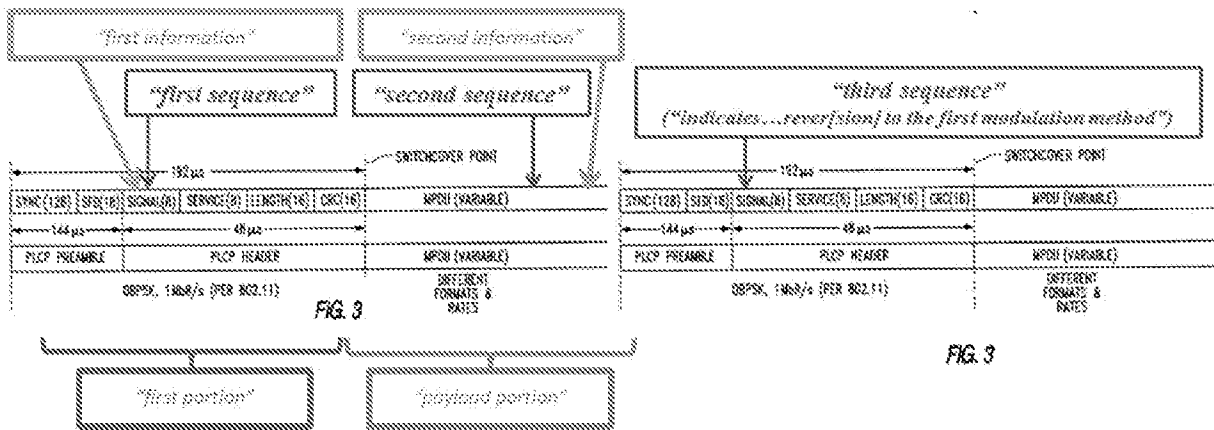
# **Exhibit D**

**Comparison of the Requester's Presentation of Snell's Fig. 3 and Boer's Fig. 4**

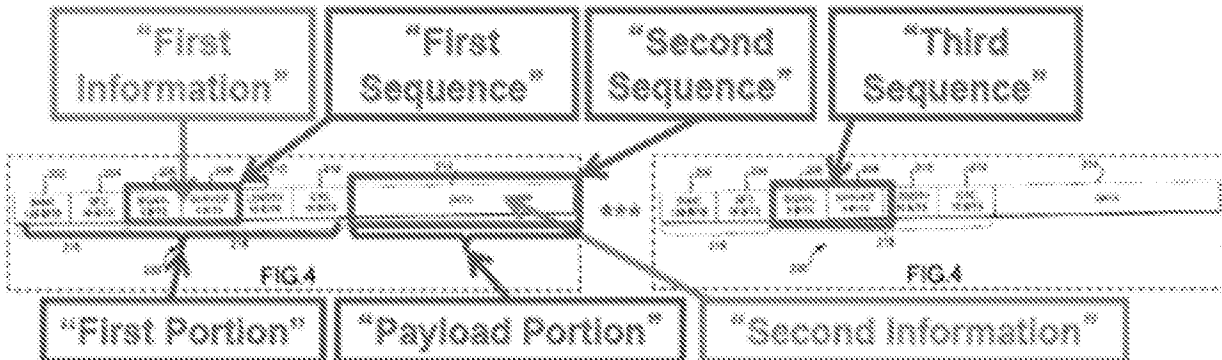
Snell's FIG. 3 from Reexamination Request (modified by Requestor, at 58, 84 & 116:



Above figure modified to match color coding of IPR2014-00518 Petition (extraneous labels removed):



Boer's Fig. 4 from IPR2014-00518 Petition (modified by Petitioner, at 25):



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Control No.	: 90/013,808	Art Unit	: 3992
Patent No.	: 8,023,580	Examiner	: Yuzhen Ge
Filed	: September 12, 2016	Conf. No.	: 2211
Customer No.	: 06449	Atty. No.	: 3277-114.RXM1

Title: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS

**37 C.F.R. § 1.132 DECLARATION OF DR. ROBERT AKL**

**I. INTRODUCTION**

**A. Engagement**

1. My name is Robert Akl, and I have been retained by counsel for Rembrandt Wireless Technologies, LP (“Rembrandt”) as an expert declarant in this reexamination. I have been asked by counsel to opine on a number of subject relevant to this reexamination, including the patentability of claims 2 and 59 of US Patent No. 8,023,580 (“the ‘580 Patent”) from the perspective of one of ordinary skill in the relevant art prior to December 5, 1997 (when Provisional Patent Application No. 60/067,562 was filed, and to which the ‘580 Patent claims priority).

2. Specifically, I have been asked by counsel to review the Request for Ex Parte Reexamination of the ‘580 Patent (“‘580 Request”), the Office’s Order Granting Request for Ex Parte Reexamination of the ‘580 Patent (dated 9/27/16) (“Order”), the Office’s Office Action in the ‘580 Reexamination (dated 3-31-17) (“3-31-17 Office Action”) and the references relied on in the 9-27-16 Order and/or 3-31-17 Office Action, including U.S. Patent No. 5,982,807 (“Snell”), U.S. Patent No. 6,075,814 (“Yamano”), “Using the PRISMTM Chip Set for Low Data Rate Applications,” Harris Semiconductor Application Note No. AN9614 (“Harris AN9614”), “HSP3824 Direct Sequence Spread Spectrum Baseband Processor,” Harris Semiconductor File

No. 4064.4, (“Harris 4064.4”), Kamerman, A., “Throughput Density Constraints for Wireless LANs Based on DSSS,” IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol. 3 (“Kamerman”), the Petition for Inter Partes Review in IPR2014-00518 (“’518 Petition”), the PTAB’s Institution Decision in IPR2014-00518, Paper 16 (dated September 23, 2014) (“’518 Institution Decision”), the PTAB’s Final Written Decision in IPR2014-00518 (“’518 Final Decision”), U.S. Patent No. 5,706,428 (“Boer”), the alleged Admitted Prior Art (“APA”), Upender et al., “Communication Protocols for Embedded Systems,” Embedded Systems Programming, Vol. 7, Issue 11, Nov. 1994 (“Upender”), and U.S. Patent No. 5,537,398 to Siwiak (“Siwiak”) and to offer rebuttal opinions when, based on my expertise in the relevant art, I disagree with the determinations of the Office.

3. I am being compensated at my normal hourly consulting rate (\$650 per hour) for time spent on this matter. I have no financial interest in the outcome of this reexamination, and my compensation is in no way affected by its outcome.

#### **B. Qualifications**

4. I have summarized in this section my educational background, work experience, and other relevant qualifications. A true and accurate copy of my curriculum vitae is attached as Exhibit A to my declaration.

5. I earned my Bachelor of Science degrees in Electrical Engineering and Computer Science *summa cum laude* with a grade point average of 4.0/4.0 and a ranking of first in my undergraduate class from Washington University in Saint Louis in 1994. In 1996, I earned my Master of Science degree in Electrical Engineering from Washington University in Saint Louis with a grade point average of 4.0/4.0. I earned my Doctorate of Science in Electrical Engineering



from Washington University in Saint Louis in 2000, again with a grade point average of 4.0/4.0, with my dissertation on “Cell Design to Maximize Capacity in Cellular Code Division Multiple Access (CDMA) Networks.”

6. While a graduate student, I worked at MinMax Corporation in St. Louis, where I designed software packages that provided tools to flexibly allocate capacity in a CDMA communications network and maximize the number of subscribers. As part of this work, I validated the hardware architecture for an Asynchronous Transfer Mode (ATM) switch capable of channel group switching, as well as performed logical and timing simulations, and developed the hardware architecture for the ATM switch. I also worked with Teleware Corporation in Seoul, South Korea, where I designed and developed algorithms that were commercially deployed in a software package suite for analyzing the capacity in a CDMA network implementing the IS-95 standard to maximize the number of subscribers.

7. After obtaining my Doctorate of Science degree, I worked as a Senior Systems Engineer at Comspace Corporation from October of 2000 to December of 2001. In this position, I designed and developed advanced data coding and modulation methods for improving the reliability and increasing the available data rates for cellular communications. I coded and simulated different encoding and modulation techniques using amplitude and phase characteristics and multi-level star constellations. This work further entailed the optimization of soft decision parameters and interleavers for additive white Gaussian and Rayleigh faded channels. In addition, I also extended the control and trunking of Logic Trunked Radio (LTR) to include one-to-one and one-to-many voice and data messaging.

8. In January of 2002, I joined the faculty of the University of New Orleans in Louisiana as an Assistant Professor in the Department of Electrical Engineering. While on this faculty, I

designed and taught two new courses called “Computer Systems Design I and II.” I also developed a Computer Engineering Curriculum with strong hardware-design emphasis, formed a wireless research group, and advised graduate and undergraduate students.

9. In September of 2002, I received an appointment as an Assistant Professor in the Department of Computer Science and Engineering at the University of North Texas (UNT), in Denton, Texas. In May of 2008, I became a tenured Associate Professor in the Department of Computer Science and Engineering. As a faculty member, I have taught courses and directed research in wireless communications, including 2G, 3G, 4G, CDMA/WCDMA, GSM, UMTS, LTE, wireless sensors, Bluetooth, VoIP, multi-cell network optimization, call admission control, channel coding, ad-hoc networks, and computer architecture. I am the director of the Wireless Sensor Lab (“WiSL”). Several of my research projects were funded by industry. One such project funded by Raytheon encompassed using Bluetooth sensors that allow soldiers to communicate silently in close range engagement and convey hand signals and gestures wirelessly to a head’s up display in the absence of line-of-sight. In January of 2015, I was promoted to Associate Chair of Graduate Studies in the Department of Computer Science and Engineering.

10. In addition to advising and mentoring students at UNT, I was asked to join the faculty of the University of Arkansas in Little Rock as an Adjunct Assistant Professor from 2004 to 2008 in order to supervise the research of two Ph.D. graduate students who were doing research in wireless communications. At UNT, I have advised and supervised more than 250 undergraduate and graduate students, many of whom received a master’s or doctorate degree under my guidance.

11. In addition to my academic work, I have remained active in the communication industry through my consulting work. In 2002, I consulted for Input/Output Inc. and designed and implemented algorithms for optimizing the frequency selection process used by sonar for scanning the bottom of the ocean. In 2004, I worked with Allegiant Integrated Solutions in Ft. Worth, Texas to design and develop an integrated set of tools for fast deployment of wireless networks. Among other features, these tools optimize the placement of Access Points and determine their respective channel allocations to minimize interference and maximize capacity. I also assisted the Collin County Sheriff's Office (Texas) in a double homicide investigation, analyzing cellular record data to determine user location.

12. I have authored and co-authored approximately 75 journal publications, conference proceedings, technical papers, book chapters, and technical presentations, in a broad array of communications-related technology, including networking and wireless communication. I have also developed and taught over 100 courses related to communications and computer system designs, including a number of courses on LTE, VoIP, wireless communication, communications systems, sensor networks, computer systems design, and computer architecture. These courses have included introductory courses on communication networks and signals and systems, as well as more advanced courses on wireless communications. A complete list of my publications and the courses I have developed and/or taught is also contained in my curriculum vitae.

13. My professional affiliations include services in various professional organizations and serving as a reviewer for a number of technical publications, journals, and conferences. I have also received a number of awards and recognitions, including the IEEE Professionalism Award (2008), UNT College of Engineering Outstanding Teacher Award (2008), and Tech Titan of the Future (2010) among others, which are listed in my curriculum vitae. I have also served as an

expert in certain legal proceedings. Exhibit A contains a list of cases in which I have testified (either via deposition, hearing or trial) during the past four years.

## **II. MATERIALS REVIEWED AND RELIED ON IN FORMING MY OPINIONS**

14. In preparing the opinions and discussion included in this declaration, I have reviewed and considered the documents identified in ¶ 2 above. A list of the documents that I have received, reviewed, and/or relied upon for this report is attached as Exhibit B (as well as those cited in the body of this declaration). I have also relied on my years of education, teaching, research, and experience, and my understanding of the applicable legal principles.

## **III. SUMMARY OF OPINIONS**

15. From the perspective of one of ordinary skill in the relevant art prior to December 5, 1997, I offer the following opinions (discussed in detail below): (1) The disclosure in the documents relied on in the 9-27-16 Order and/or in the 3-31-17 Office Action, individually or in the combinations relied on by the Office, are no more relevant to the patentability of claims 2 and 59 of the '580 Patent than Boer in the combinations previously relied on by Samsung (which the PTAB previously considered when it refused to initiate *inter partes* review of those claims), and thus do not present a substantial new question of patentability. *See* ¶¶ 41-70 below. (2) There is insufficient evidence that either Harris AN9614 or Harris 4064.4 was published prior to the filing date of the '580 Patent, rendering them unavailable to be incorporated by reference, and, even if they were successfully incorporated, Snell's reference to Harris AN9614 does not specifically identify the material relied on by the Office. *See* ¶¶ 71-77 below. (3) None of the art relied on in the 3-31-17 Office Action, considered alone or in the combinations relied on by the Office, anticipates or would have rendered obvious either claim 2 or 59 of the '580 Patent. *See* ¶¶ 94-178 below.

#### IV. LEGAL PRINCIPLES

16. I am not an attorney. I have been advised of the following general principles of patent law to be considered in formulating my opinions as to the patentability of claims 2 and 59 of the '580 Patent. I have applied these principles to the facts set forth in this report in rendering my opinions.

17. I understand that determining the patentability of a patent claim requires a two-step analysis. First, the meaning and scope of the patent claim is interpreted, or construed, and then the construed claim is compared to the prior art.

##### A. Claim Construction

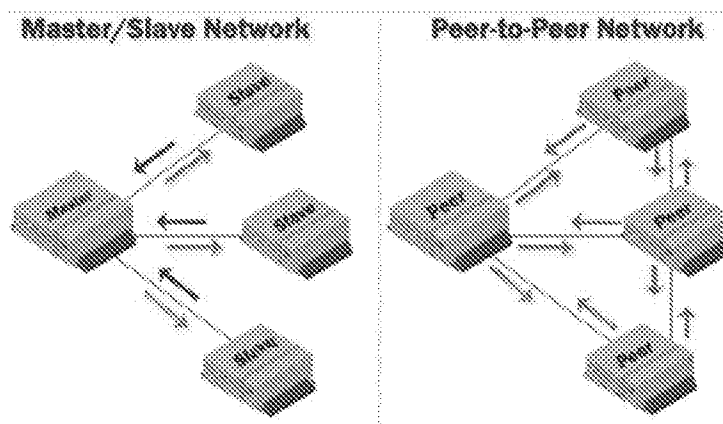
18. With respect to the first step, I understand that claims are to be interpreted from the perspective of one of ordinary skill in the art at the time of the invention and have considered such an interpretation in forming my opinions on patentability. I further understand that, in a reexamination of an issued patent, the claims are to be given their broadest reasonable interpretation when read in light of the specification and the patent's prosecution history. Based on this understanding, I have reviewed the claims, the specification, and the prosecution history. My analysis is informed by the plain and ordinary meaning the claim terms would have to one of ordinary skill in the art at the time of the invention, when read in the context of the claims, the specification and its prosecution history.

19. From the perspective of one of ordinary skill in the relevant art, I interpret the following terms as follows:

20. **Different Types of Modulation Methods** -- On page 7 of the 3-31-17 Office Action, the Office interpreted "Different Types of modulation method" to mean "modulation methods that are incompatible with one another. I disagree with her interpretation. Based on "the clearest statement in the intrinsic record" -- which is found in the prosecution history -- the broadest

reasonable interpretation of “different types of modulation methods” is “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, No. 2016-1729, slip op. at 9 (Fed. Cir. April 17, 2017) (rehearing denied). Ignoring “types,” as construed in the litigation would result in a claim construction that is overly broad and not consistent with how one skilled in the art would understand the term in view of the teachings in the prosecution history.

21. **Master/Slave** – I have defined master/slave by giving the term its plain and ordinary meaning as one skilled in the art would have understood it in the context of the ‘580 Patent. In the field of data communications, the electrical devices can be arranged in various network configurations. The ‘580 Patent and its claims are directed to a network historically-referred to in the computer industry as a *master/slave* network because one centralized “master” device controls all network communications with the other subordinate “slave” or “tributary” devices. The slave devices do not directly communicate with one another, but instead only communicate with the master. This is very different from a *peer-to-peer* network, in which network control is distributed amongst the devices in the network and each device communicates directly with its peers:



Persons of ordinary skill at the relevant time would have recognized that the plain and ordinary meaning of a “master” is “a device which controls all communications with other devices (*i.e.*, slaves) in a network” and the plain and ordinary meaning of a “slave” is “a device whose network communications are controlled by a master.”

22. My definitions are consistent with the specification of the ‘580 Patent. The ‘580 Patent is replete with usage of the terms “master” and “slave” in the context of the master/slave relationship. For example, the device disclosed in the ‘580 Patent includes “a transceiver capable of acting as a master according to a master/slave relationship in which communication from a slave to a master occurs in response to communication from the master to the slave.” ‘580 Patent at Abstract. “[A] master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.” *Id.* at 4:7-9. Similarly, the Summary of the Invention section of the ‘580 Patent states:

a device may be capable of communicating according to a master/slave relationship in which *a communication from a slave to a master occurs in response to a communication from the master to the slave*. The device may include a transceiver in the role of the master for sending transmissions modulated using at least two types of modulation methods, for example a first modulation method and a second modulation method.

*Id.* at 2:24-29 (emphasis added).

23. My definitions are supported by numerous technical sources. For example, the IEEE Wireless Dictionary states:

“master: In the context of wireless protocols, this refers to a device that controls the operation of a network. ...”

“slave: In the context of wireless protocols, a device that is dependent on another device for control, usually called the master. ...”

*E.g.*, IEEE Wireless Dictionary at 55, 80; *see also* Comprehensive Dictionary of Electrical Engineering (1999) at 397 (“master: the system component responsible for controlling a number

of others (called slaves).”); Modern Dictionary of Electronics (1997) at 932 (“slave: a component in a system that does not act independently, but only under the control of other similar components.”).

24. Understanding the claimed master/slave configuration is key to understanding the problem Gordon Bremer identified and solved. The Summary section of the ‘580 Patent states:

The *present invention* disclosed herein includes communication systems, devices, and methods. For example, a device may be capable of communicating according to a *master/slave relationship* in which a communication from a *slave* to a *master* occurs in response to a communication from the *master* to the *slave*. The device may include a transceiver in the role of the *master* for sending transmissions modulated using at least two types of modulation methods, for example a first modulation method and a second modulation method. The first modulation method may be of a different type than the second modulation method. [‘580 Patent at 2:24-33 (emphasis added).]

25. I observe that the ‘580 Patent uses the term “master” 94 times, the term “slave” 24 times, and the term “trib” 89 times. Further, the master/slave configuration is explicitly recited in claims 2 and 59. *E.g.*, ‘580 claim 1 (from which claim 2 depends) (“a communication device capable of communicating according to a *master/slave relationship*...”) (emphasis added). Persons of ordinary skill would have recognized from the above disclosures that the claimed master/slave configuration is an important part of claims 2 and 59.

26. **Incompatible** – While not a claim term, the ‘580 Patent uses the term “incompatible” to describe the problem Gordon Bremer identified and solved. I have defined “incompatible” (which was not previously defined by the Office) by giving the term its plain and ordinary meaning as one skilled in the art would understand it in the context of the ‘580 Patent. In that context, first and second modulation methods are incompatible when one modem using the first method cannot communicate with a second modem using the second method. *See* the ‘580 Patent, col. 1, ll. 45-65. Importantly, incompatibility as used in the ‘580 Patent cannot be considered in a vacuum but must be considered in the context in which it is being used.



27. For purposes of my analyses supporting my opinions in this declaration, I have applied these definitions.

**B. Anticipation**

28. In reexamination, it is my understanding that anticipation under 35 U.S.C. § 102 requires the Office to prove by a preponderance of the evidence that a single prior art reference disclose, expressly or inherently, every limitation of the claimed invention. The relevant subsections of §102 are reproduced below:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or ...

(e) the invention was described in ... (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent ....

29. I understand that, in general, the anticipation analysis under 35 U.S.C. § 102 is limited to the use of a single reference. I further understand that portions of additional documents may be relied upon as part of the anticipation analysis if the primary reference incorporates the additional documents by reference. In order for the primary reference to incorporate additional documents by reference, the additional documents must meet certain legal requirements and the primary reference must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the additional documents. A mere reference to another document is insufficient to incorporate that document by reference.

30. I understand that the phrase “printed publication” as used in § 102(a) and (b) means sufficiently accessible to the public interested in the art, and depends on dissemination and accessibility.

**C. Obviousness**

31. It is my understanding that a claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if one or more prior art references alone or in combination would have suggested the claimed invention to one of ordinary skill in the relevant art at the time the invention was made. I further understand that, in a reexamination, the burden of proving unpatentability is on the Office and must be established by a preponderance of the evidence. The relevant standard for obviousness is as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. [35 U.S.C. §103(a).]

32. I further understand that, in determining whether or not a patented invention would have been obvious, the following factors should be considered: (a) the scope and content of the prior art; (b) the differences between the prior art and the claims at issue; (c) the level of ordinary skill in the art; and (d) whatever “secondary considerations” may be present.

33. I understand that certain “secondary considerations” may be relevant in determining whether or not an invention would have been obvious, and that these secondary considerations may include commercial success of a product using the invention, if that commercial success is due to the invention; long-felt need for the invention; evidence of copying of the claimed

invention; industry acceptance; initial skepticism; failure of others; praise of the invention; and the taking of licenses under the patents by others.

34. I understand that a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. While multiple prior art references or elements may, in some circumstances, be combined to render a patent claim obvious, I understand that I should consider whether an “apparent reason” would have existed to combine the prior art references or elements in the way the patent claims. To determine whether such an “apparent reason” would have existed, it is often necessary to look to, among other things, the problem identified and solved by the claimed invention, the outcome of a proposed combination and whether that outcome would have been predictable, the interrelated teaching of multiple patents, the effects of demands known to the design community or present in the marketplace, and to the background knowledge possessed by a person having ordinary skill in the art.

35. I also understand that when the prior art “teaches away” from modifying or combining prior art references or certain known elements, i.e., discourages such a modification or combination, the discovery of a successful means of combining them is more likely to be non-obvious. A prior art reference may be said to “teach away” from a patent when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the patent or would be led in a direction divergent from the path that was taken by the patent. Additionally, a prior art reference may “teach away” from a claimed invention when modifying or substituting an element in a prior art device would render the claimed invention inoperable or negatively impact the value of the prior art device.

36. I also understand that it is not permissible to use hindsight in assessing whether a claimed invention would have been obvious. Rather, I understand that, to assess obviousness, you must place yourself in the shoes of a person having ordinary skill in the relevant art at the time the claimed invention was made and ignore the knowledge you currently now have of the claimed invention. Thus, the claims of a patent cannot be used as a roadmap to combine or modify prior art references.

**D. Inherent Disclosure**

37. I understand that a reference that does not expressly disclose a claim limitation may nevertheless “inherently” disclose the limitation if the missing matter is necessarily present in the system or method described in the reference. I further understand that the disclosure must be sufficient to show that the natural result flowing from the operation of the system or method disclosed in the reference would require the missing matter or result in the performance of a missing step.

**E. Person of Ordinary Skill in the Art of the ‘580 Patent**

38. In my opinion, a person of ordinary skill in the art of the ‘580 Patent on December 5, 1997 would have a bachelor’s degree in electrical engineering that included coursework in communications systems and networking, and two years of work experience in electronic communications. In determining who would be one of such ordinary skill, I considered at least the following criteria: (a) the type of problems encountered in the art; (b) prior art solutions to those problems; (c) the rapidity with which innovations are made; (d) the sophistication of the technology; and (e) the education level of active workers in the field.

#### **F. Priority Date**

39. I understand that in some situations a later-filed patent application can claim priority to an earlier-filed application. If a patent application claims priority to a prior application, the later-filed application may be entitled to the benefit of the earlier-filed application. For a later-filed patent application to be entitled to the benefit of an earlier filing date, the claims of the later-filed application must be supported by the written description in the earlier application in sufficient detail such that a person skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought.

#### **G. Admitted Prior Art**

40. I understand that an inventor can refer to another's work as "prior art" in a patent specification, in which case that admission may cause that work to become prior art for purposes of a patentability analysis. This has been referred to as the "doctrine of prior art by admission." However, I understand that the doctrine of prior art by admission is inapplicable when the subject matter at issue is the inventor's own work. Rather, the doctrine of prior art by admission only applies when the inventor refers to the work of another as "prior art."

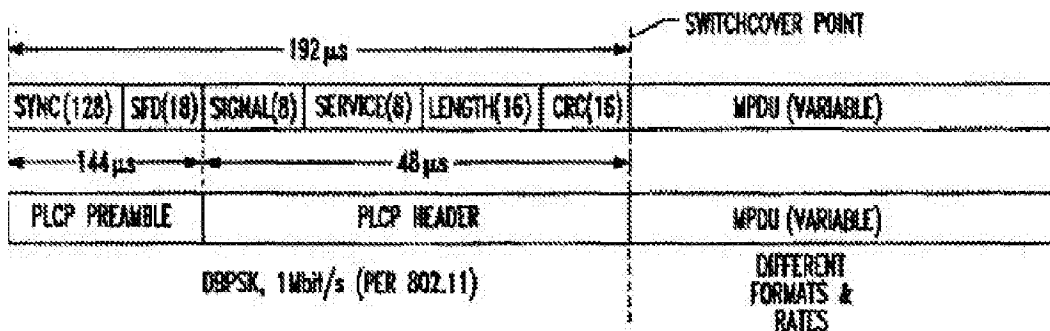
#### **V. THE SUBSTANTIAL NEW QUESTION OF PATENTABILITY ISSUE**

41. I understand that a reexamination cannot be ordered unless there is a substantial new question of patentability not previously considered by the Office. In that regard, I further understand that "[i]t must first be demonstrated that a patent or printed publication that is relied on in a proposed rejection presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested." MPEP § 2216.

42. I further understand that the PTAB considered the patentability of claims 2 and 59 of the '580 Patent in view of Boer and several other references and concluded that the '518 Petition, "does not demonstrate a reasonable likelihood of prevailing on the obviousness grounds of unpatentability as to claims 2 ... and 59 based on APA and Boer." '518 IPR Institution Decision, at 17.

43. I observe that, in ordering *ex parte* reexamination of the '580 Patent, the Office found:

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at col. 4, lines 42- 47 and col. 5, lines 18-21. Snell's transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a "first modulation method" (e.g., BPSK) and a "second modulation method" (e.g., QPSK) that is "of a different type than the first modulation method." (col. 2, lines 27-30, "*It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.*" col. 7, lines 10-14, "*The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in Fig. 3, occurs on-the-fly.*" col. 2, lines 15-17, "*Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-fly.*").



**FIG. 3**

-Snell, Fig. 3.

Snell discloses that each data packet transmission comprises a "group of transmission sequences" structured with a "first portion" (e.g., a PLCP preamble and PLCP header) and a "payload portion" (e.g., MPDU data). Id. at col. 6, lines 35-36, col. 6, lines 64-66, col. 7, lines 5- 14, Fig. 3. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE,

LENGTH, and CRC fields. Id. at Fig. 3, col. 6, line 48-col. 7, lines 14. The MPDU data is the data to be transmitted to the receiving transceiver. Id. at col. 7, lines 5-6 ("MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation."); see also Id. at col. 7, lines 6-14, Fig. 3.

Snell teaches that the PLCP preamble and PLCP header are always modulated using the "first modulation method" (e.g., BPSK) (col. 6, lines 35-36, "The header may always be BPSK," Fig. 3). Snell further discloses that "first information in the first portion" (e.g., the SIGNAL field in the PLCP header) "indicates" which of the "first modulation method" (e.g., BPSK) and "second modulation method" (e.g., QPSK) is used for modulating "second information" in the "payload portion" (e.g., MPDU data).

Snell teaches that the SIGNAL field in the PLCP header can have four values (col. 6, lines 54-59), each of which corresponds to a modulation method for the MPDU data (col. 6, lines 52-59, col. 7, lines 1-2, col. 7, lines 5-14, Fig. 3).

**SFD is F3A0h for the PLCP preamble 90. Now relating to the PLCP header 91, the SIGNAL is:**

---

0Ah	1 Mb/s BPSK
14h	2 Mb/s QPSK
37h	5.5 Mb/s BPSK, mod
6Eh	11 Mb/s QPSK

---

-Snell, col. 6, lines 52-59.

Order, at 8-9 (emphases in Order).

44. Based on these citations to Snell, the Office drew the following conclusions:

Snell's transceiver transmits a first group of transmission sequences comprising a "first sequence" (e.g., PLCP preamble and PLCP header) that is "modulated according to the first modulation method" (e.g., BPSK) where the "first sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "14h") the modulation type (e.g., QPSK) used for modulating the "second sequence" (e.g., MPDU data). For the first packet, the "SIGNAL" field in the PLCP header uses a code (e.g., "14h") that "indicates" when the MPDU data is modulated "according to the second modulation method" (e.g., QPSK). The "second modulation method" (e.g., QPSK) "is of a different type than the first modulation method" (e.g., BPSK).

Snell's transceiver then transmits a second packet comprising a "third sequence" (e.g., PLCP preamble and PLCP header) "transmitted in the first

*modulation method*" (e.g., BPSK) where the *"third sequence"* (e.g., "SIGNAL" field in PLCP header) *"indicates"* (e.g., using "OAh") the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet.

Thus, Snell teaches "transmitting a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method."

Because Snell teaches the limitations of claims 2 and 59 of the '580 patent, found important to the patentability of claims 2 and 59 of the 580 patent by the examiner of the 580 patent and the PTAB, there is a substantial likelihood that a reasonable examiner would consider this teaching important in deciding whether or not claims 2 and 59 of the 580 patent patentable. Accordingly, Snell raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent.

Because Snell raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent, Snell in view of Yamano and Kamerman, Snell in view of Harris 4064.4, Harris AN9614, Yamano and Kamerman, or Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman, also raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent.

Order, at 9-11. I observe that the Office does not rely on any teachings, except those in Snell (quoted above), to support its SNQ findings.

45. I observe that, in the above analysis, the Office failed to analyze whether the same question of patentability as to claims 2 and 59 was previously considered by the Office (in this case by the PTAB). For instance, the Office failed to analyze whether Snell is more relevant to the patentability of claims 2 and 59 than Boer, or just cumulative of Boer. In addition, the Office failed to analyze whether Snell is being considered in a new light, or just in the same way that Boer was considered in a number of IPRs, including the '518 IPR.

46. Based on my understanding of what is needed to raise an SNQ and my review of Snell and Boer (and the other documents cited in the Order), in my opinion, the references identified and the arguments made in the Office's Order are at best cumulative to the references relied on and the arguments previously made and considered by the PTAB during several IPRs, including



the ‘518 IPR. My opinion remains the same, even assuming Harris AN9614 (which I discuss further below) was prior art and was successfully incorporated by reference into Snell (which I understand is not the case). Thus, in my opinion, the Office has not raised an SNQ based on Snell and would not be able to do so based on the other references identified in the Order. I further support my opinions with the following analysis.

**A. Snell Compared to Boer**

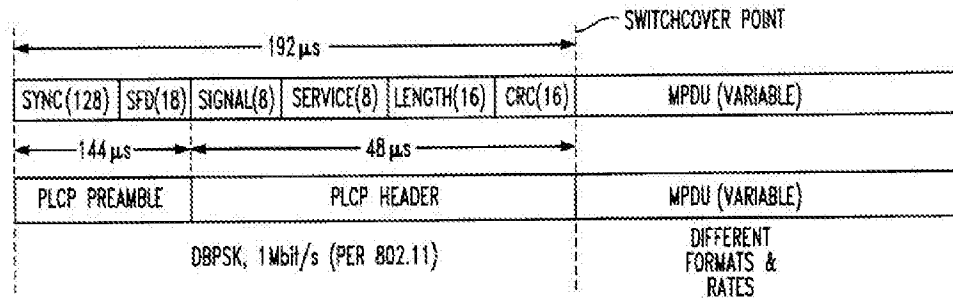
47. With respect to the patentability of claims 2 and 59 of the ‘580 Patent, in my opinion, Snell is no more relevant than Boer, which the PTAB previously considered in the ‘518 IPR in deciding that claims 2 and 59 were unlikely to be proven unpatentable. ‘518 IPR Institution Decision, at 13-15 & 17.<sup>1</sup> Both Snell and Boer propose similar extensions to what became known as the 802.11 standard (or WiFi), namely adding two higher data rates to the 1MB/s and 2MB/s data rates in the standard. Both references use the packet structure defined by the standard, including packet headers with the same fields.

48. The Office relies heavily on Snell’s Fig. 3 and its disclosure of these packet structures as providing the additional limitations of claims 2 and 59. Order at 10-11. Substantially identical packet structures disclosed in Boer and Boer’s Fig. 4 were fully considered by the PTAB in the ‘518 IPR and found unlikely to render unpatentable claims 2 and 59 of the ‘580 Patent. *See* ‘518 IPR Institution Decision, Paper 16, at 13-15 & 17 (September 23, 2014) (quoted below in ¶ 52).

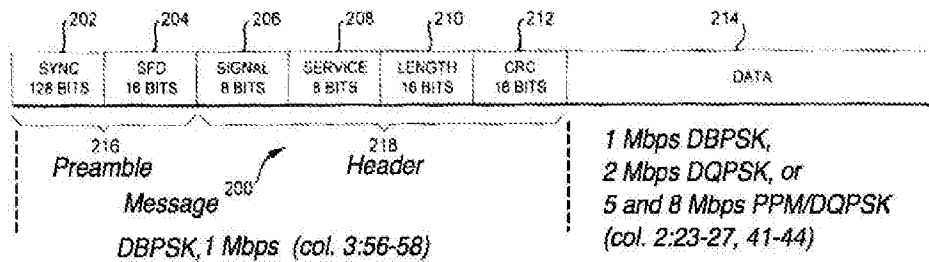
49. I have compared Snell’s Fig. 3 with Boer’s Fig. 4 (annotated in italics to identify the numbers in Fig. 4 and the Boer teachings coinciding to those shown in Snell’s Fig. 3):

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<sup>1</sup> The PTAB’s determination was based on alleged Admitted Prior Art (“APA”) and Boer. The alleged APA (‘580 Patent at 7-8) describes a master/slave communications system. I discuss the combination further below. *See* ¶ 47-54.



(Snell) FIG. 3



(Boer) FIG. 4

Based on my comparison of these figures and their descriptions in Snell and Boer, I conclude that Snell is at best cumulative to Boer. My opinion is further supported by Exhibit B in which the relied-on material in Snell is compared to Boer's teachings. In fact, based on my review, I conclude that the Snell disclosure relied on by the Office is substantially identical to that in Boer, i.e., a disclosure previously fully considered by the PTAB.

50. I further opine that the Office does not identify a single disclosure in Snell more relevant to the patentability of claims 2 and 59 than that which the PTAB previously considered in Boer. In fact, in my opinion, Snell is even less relevant than Boer due to, *inter alia*, lack of any disclosure of a destination address in Snell. Further, just as in Boer, there is no disclosure in Snell of transmitting "a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method," as required by claims 2 and 59.

**B. The Arguments Based on Snell Compared to Those Based on Boer**

51. I observe that the Office’s arguments based on Snell are being made in the same way they were previously made and considered based on Boer in the ‘518 IPR. For instance, in its Order, the Office alleges that the SIGNAL/SERVICE fields of a “subsequent” transmission taught the additional limitations of claims 2 and 59. Order, at 10-11 (quoted above). I have compared that argument with the corresponding Boer argument considered in the ‘518 Institution Decision, at 13-15 (quoted below in ¶ 52) and opine that they are substantially the same.

52. I further observe that, in the ‘518 IPR, the PTAB considered the packet structure disclosed in Fig. 4 of Boer, which, as noted above, is substantially identical to that disclosed in Fig. 3 of Snell, and rejected the argument now advanced by the Office, namely, that the SIGNAL/SERVICE fields of a “subsequent” transmission taught the additional limitations of claims 2 and 59. In the ‘518 Institution Decision, the PTAB determined the following:

Claim 2, which depends from claim 1, recites that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method “and indicates that communication from the master to the slave has reverted to the first modulation method.” Petitioner submits that the recitation is met by material in Boer.

Figure 4 of Boer is reproduced below.

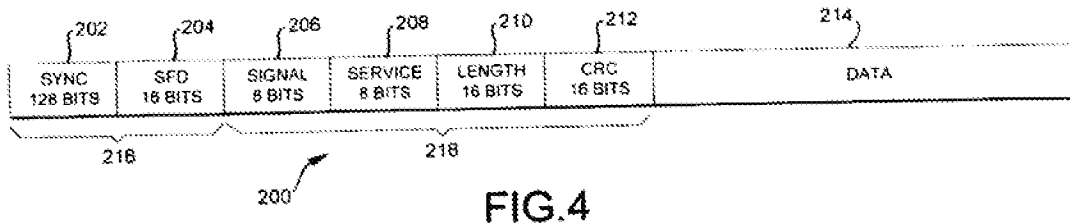


Figure 4 is said to be a diagram illustrating the format of a data message circulating in Boer’s LAN. Ex. 1204, col. 1, ll. 59–60. Message 200 includes preamble 216 and header 218, always transmitted at the 1 Mbps rate using DBPSK modulation. Subsequent DATA field 214, however, may be transmitted at any one of the four rates 1, 2, 5, or 8 Mbps, using the modulation and coding appropriate for the selected rate. Id. at col. 3, ll. 56–62. SIGNAL field 206 has a first value if DATA field 214 is transmitted at the 1 Mbps rate and a second value if the DATA field is transmitted at the 2, 5, or 8 Mbps rate. SERVICE field 208

has a first value for the 1 and 2 Mbps rates, a second value for the 5 Mbps rate, and a third value for the 8 Mbps rate. *Id.* at col. 4, ll. 4–11.

Petitioner submits that the “first sequence” of base claim 1 corresponds to Boer’s description of SIGNAL field 206 and SERVICE FIELD 208. E.g., Pet. 32 (claim chart). According to Petitioner, the “third sequence” of claim 2 corresponds to a subsequent transmission of SIGNAL field 206 and SERVICE field 208. Pet. 25. Petitioner concludes that the subject matter of claim 2 would have been obvious because header 218 is always transmitted using DBPSK (the “first” modulation method). *Id.* ....

\* \* \*

Petitioner has not provided sufficient evidence or explanation in support of why the fact that Boer’s SIGNAL and SERVICE fields are always transmitted using DBPSK (the “first” modulation method) might demonstrate obviousness of the subject matter of claim 2. Petitioner has failed to show, in particular, how the SIGNAL and SERVICE fields might be deemed, as alleged, to “indicate” that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2.

Independent claim 49, from which challenged claims 52 and 53 depend, recites a similar limitation with respect to how a sequence “indicates” that communication has reverted to the first modulation method. Petitioner relies, again, on Boer’s description of header 218 being always transmitted using the “first” modulation method. Pet. 39; Ex. 1220 ¶¶ 192– 195. Petitioner’s asserted ground of obviousness with respect to claim 49, thus, fails for the same reasons as that of claim 2.

Claim 59, which depends from independent claim 58, also recites a third sequence that is transmitted in the first modulation method that “indicates” communication from the master to the slave has reverted to the first modulation method. Petitioner submits, correctly, that Boer teaches that the SIGNAL and SERVICE fields in the header “indicate which modulation method is used to transmit DATA field 218.” Pet. 49. “When Boer is combined with the APA, it could therefore indicate that communication from the master to the slave has reverted to the first modulation method.” *Id.* (citing Ex. 1220 ¶¶ 232–237). Mr. Goodman repeats that “it could therefore indicate” that communication has reverted to the first modulation method (Ex. 1220 ¶ 237) and concludes, “[t]herefore, it is my opinion that claim 59 is obvious in view of the prior art” (*id.* ¶ 238). Although it appears that Petitioner attempts to provide more explanation in its challenge of dependent claim 59, as compared with that of claim 2 or 49, we are not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge of any of claims 2, 49, and 59.

‘518 IPR Institution Decision, at 13-15 (denying *inter partes* review of claims 2 and 59).

53. I opine that, as is the case with Boer (and as the PTAB determined), there's nothing in Snell that requires "the third sequence [to be] transmitted in the first modulation method and [to] indicate[] that communication from the master to the slave has reverted to the first modulation method." Claims 2 and 59. Just as in Boer, the fact that "[t]he PLCP preamble and PLCP header are always at 1 Mbit/s," Snell 6:64-66, does not require that the "communication ... revert[] to the first modulation method," as required by claims 2 and 59. Neither does the fact that Snell's SIGNAL field in PLCP header has four predetermined values that correlate with four data rates/modulation methods that are used to send the payload, Snell 6:48-59 (also describing Snell's Fig. 3). Boer discloses substantially the same information in describing Boer's Fig. 4. See Boer's Fig. 4 above and its description at 3:42-4:24; Exhibit B. The PTAB found that disclosure in Boer inadequate to even institute an IPR with respect to claims 2 and 59, even when combined with the APA.<sup>2</sup> See '518 Institution Decision, at 13-15 (quoted above in ¶ 52).

54. Summarizing my opinions regarding Snell compared to Boer: Snell is at best cumulative of Boer, and the Office has presented it in the same way that Boer was presented and considered in a number of IPRs, including the '518 IPR. Moreover, the arguments based on Snell were previously made in the '518 IPR and were rejected by the PTAB in the context of Boer. Thus, based on my understanding of the requirements to support an SNQ, Snell fails to do so.

**C. Harris 4064.4 and Harris AN9614**

55. The Order lists as "Prior Art" Harris 4064.4 and Harris AN9614 (collectively "Harris Documents") and posits that they are "incorporated by reference by Snell" and are "therefore

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<sup>2</sup> The APA considered by the PTAB is described in the '518 Institution Decision, at 7-8. It describes a master/slave communications system.

prior art under at least 35 U.S.C. 102(e) as Snell.” Order, at 3-4. I observe that the Office does not discuss the substance of either Harris Document in its Order or even mention either again.

56. It is my understanding that the Harris Documents are not prior art and were not successfully incorporated by reference. Nevertheless, for purposes of this portion of my analysis, I have been asked to assume that the Harris Documents were prior art and were successfully incorporated by reference into Snell. Given that assumption, I have compared the disclosure in the Harris Documents with that of the art previously and fully considered by the PTAB in a number of the IPRs of the ‘580 Patent, including the ‘518 IPR, i.e., Boer and APA.

57. Harris 4064.4 discloses a preamble and header that are always transmitted as DBPSK waveforms, a data portion transmitted as either DBPSK or DQPSK, and a SIGNAL field that indicates whether the data portion is modulated as DBPSK or DQPSK. Harris 4064.4 at Fig. 10, 14-16. Boer discloses a preamble 216 and header 218 that always are sent using DBPSK and a data field 214 transmitted in DBPSK, DQPSK, or PPM/QPSK, and SIGNAL and SERVICE fields that indicate whether the data field 214 is modulated in DBPSK, DQPSK, or PPM/QPSK. Boer at Fig. 4, Abstract, 3:42-49, 3:56-62, 4:4-11, 6:5-21.

58. Based on my comparison of Harris 4064.4 with Boer, I opine that Harris 4064.4 is at best cumulative of Boer. The DBPSK and DQPSK of Boer were previously considered as allegedly corresponding to the claimed “first modulation method” and “second modulation method,” respectively, and the SIGNAL and SERVICE fields of Boer were relied on as allegedly corresponding to the claimed “first sequence.” ‘518 Institution Decision, at 9-11, 13-15.

59. Based on the above, it is my opinion that Snell (even with Harris 4064.4 incorporated by reference) would not have raised an SNQ.

60. With respect to Harris AN9614 (again with no mention as to its merits in the Order), I have been asked to assume the Office is relying on Harris AN9614 for its disclosure of a “polled scheme,” on page 3, as allegedly corresponding to or suggesting the claimed “master/slave relationship.”<sup>3</sup> Based on that assumption and my review of Harris AN9614 and the previously cited and considered APA, Harris AN9614 is no more relevant than the APA which includes an express disclosure of a master/slave relationship. The APA was previously fully considered in a number of IPRs of the ‘580 Patent, including the ‘518 IPR, and relied upon as allegedly corresponding to the claimed “master/slave relationship.” *See, e.g., ‘518 IPR Institution Decision*, at 17 (denying review of claims 2 and 59 based on the APA and Boer).

61. I have reviewed Harris AN9614’s disclosure of a “polled scheme” and the Office’s presumed reliance on it to satisfy the claim limitations requiring a “master/slave relationship.” Harris AN9614 at 3. However, even if Harris AN9614 were prior art (which I understand it is not), in my opinion, Harris AN9614 would have, at most, suggested polling in the context of peer-to-peer communications given that both the Snell and Harris AN9614 disclosures are of such communications rather than master/slave communications as is taught and claimed in the ‘580 Patent. *See ¶¶ 113-120.* below for a further discussion of this issue.

62. Based on the above, it is my opinion that Harris AN9614 is at best cumulative of the APA which was previously presented to and considered by the PTAB in a number of IPRs, including the ‘518 IPR, in combination with Boer. *See ‘518 IPR Institution Decision*, at 17

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<sup>3</sup> Moreover, to the extent the Office is drawing inferences from the disclosure of Harris AN9614 based on the ‘580 Patent’s disclosure (*e.g.*, that Harris AN9614’s “polled scheme” is equivalent to master/slave), such inferences are not well supported and incorrect, as explained below in ¶¶ 113-120.

(denying review of claims 2 and 59 based on the APA and Boer). Thus, Snell (even with Harris AN9614 incorporated by reference) would not have raised an SNQ.

**D. The Other Art Identified in the Office's Alleged SNQs**

63. I note again that the Office relied solely on Snell to support its SNQs. Nevertheless, in addition to Snell, I have considered the possible relevance of the other art included in the three SNQs identified in the Order, *i.e.*, Kamerman and Yamano, and Upender. Based on my review of these documents and possible arguments compared to the documents and arguments considered and rejected by the PTAB, *i.e.*, APA and Boer, I conclude that none of the other identified art, if considered, would raise an SNQ. My opinion is based on my determinations that the additional documents (i) were previously considered by the Office or are cumulative to art previously considered by the Office and (ii) are presented in the same way as the art was previously considered with respect to claims 2 and 59 (*e.g.*, in the '518 IPR).<sup>4</sup>

**1. Kamerman**

64. With respect to Kamerman, as an initial matter I note that Kamerman was Boer's co-inventor, and his presentation followed the filing of the Boer patent application.<sup>5</sup> Based on my

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<sup>4</sup> While the Office has not based its SNQ determination on any reference other than Snell, I have been asked to address the additional documents identified in the Order, to the extent I am able to understand their possible alleged relevancy to claims 2 and 59 of the '580 Patent. Should the Office adopt new reasoning to support an SNQ, I respectfully reserve the right to supplement my opinions in response to such reasoning.

<sup>5</sup> The Kamerman paper is dated August, 1996, a few months after he, Boer and others filed the Boer patent:



comparison of Kamerman with Boer, it is my opinion that Kamerman's presentation neither discloses nor would have suggested anything more than Boer discloses or would have suggested. Thus, in my opinion, Kamerman's disclosure, including that of the same automatic rate control algorithm disclosed in Boer, would not raise an SNQ.

65. From the perspective of one skilled in the relevant art, I would expect such a presentation to disclose a less detailed version of the automatic rate control algorithm than that disclosed in Boer. *See* Boer, col. 7, l. 12-col. 8. l. 16 (quoted below). More specifically, just as in Boer, Kamerman's presentation describes an automatic rate control scheme in which the data rate is reduced when there are unacknowledged transmissions, and the data rate is raised after correctly acknowledged transmissions. Thus, in my opinion, Snell in view of Kamerman is at best cumulative of the previously-considered disclosure in Boer.

66. More specifically, Kamerman discloses:

An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation

<p><b>United States Patent</b> [19]</p> <p><b>Boer et al.</b></p>	<p>[11] <b>Patent Number:</b> <b>5,706,428</b></p> <p>[45] <b>Date of Patent:</b> <b>Jan. 6, 1998</b></p>
<p>[54] <b>MULTIRATE WIRELESS DATA COMMUNICATION SYSTEM</b></p> <p>[75] Inventors: <b>Jan Boer, Odijk; Wilhelmus Josephus Diepstraten, Diessen; Adriaan Kamerman, Nieuwegein; Hendrik van Bokhorst, Nijkerk; Haas van Driest, Bilthoven, all of Netherlands</b></p> <p>[73] Assignee: <b>Lucent Technologies Inc., Murray Hill, N.J.</b></p> <p>[21] Appl. No.: <b>615,408</b></p> <p>[22] Filed: <b>Mar. 14, 1996</b></p>	<p>"Welcome to IEEE P802.11"; Working Group for Wireless Local Area Networks; Set-up on Dec. 17, 1996, update of May 20, 1997.</p> <p>"Bell Labs Unveils 10-Megabit Wireless-Network Technology, Offering Five Times Today's Highest Data-Transmission Capacity"; ICA New Product Announcement, Apr. 22, 1997.</p> <p><i>Primary Examiner</i>—James P. Trammell  <i>Assistant Examiner</i>—Shah Kaminis  <i>Attorney, Agent, or Firm</i>—Christopher N. Malvone</p> <p>[57] <b>ABSTRACT</b></p>

In my experience, inventors like Kamerman are permitted to talk about an invention disclosed in a patent application once the application was filed. Such a procedure is typical with large companies like Lucent Technologies (assignee of the Boer patent and Kamerman's employer).

scheme could be: after unacknowledged packet transmissions the rate falls back, and after a number (e.g. 10) of successive correctly acknowledged packet transmissions the bit rate goes up. ... At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.

....

... The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference.

Kamerman at 11-12.

67. My opinion that Boer discloses the same automatic rate control algorithm is supported by the following disclosure in Boer:

Referring now to Fig. 7, there is shown a flowchart 500 illustrating an automatic data rate update procedure for the data rate to be used in the transmit mode ... the flowchart proceeds to block 508 where a determination is made as to whether the ACK has been received and within a predetermined time-out time. If yes, the flowchart proceeds to block 510, where a successive correct (SC) count value is incremented. Next, as seen in block 512, a check is made as to whether the SC count value is greater than a predetermined value, selected as value 9, by way of example. In other words, a check is made as to whether more than nine successive ACK messages have been correctly and timely received. If yes, the flowchart proceeds to block 514 where a check is made as to whether the local SNR (signal-to-noise ratio) value is greater than a predetermined value, suitable for data rate incrementation. (The SNR is the ratio of received signal strength during the reception of the ACK message to the average silence level during periods at which no carrier signal is being received). If the SNR value is suitable, then the flowchart proceeds to block 516, where a data rate incrementation is implemented (if the maximum data rate is not already being used), and the SC (successive correct) count value is reset to zero. Thereafter, the data rate value and SC count value are stored (block 518), and the flowchart ends at block 520.

Returning to block 508, if an ACK message is not received correctly and within the predetermined time interval, then the flowchart proceeds to block 522 where the SC count value is reset to zero and the data rate is decremented (if the

minimum data rate is not already being used), and the flowchart proceeds over line 524 to block 518 where the new data rate and SC count value are stored. ...

Returning now to block 504, if it is determined that the data rate is 5 or 8 Mbps, then the flowchart proceeds to block 506, where a determination is made as to whether the system is configured for overruling the preferred data rate by a data rate defined by monitoring the receipt of ACK messages. If no, the flowchart proceeds to block 508, previously discussed. If yes, the flowchart proceeds to block 526, where a determination is made as to whether the preferred data rate defined in the short ACK message 400 (Fig. 6) is greater than the actual data rate of the original message being acknowledged. If so, the flowchart proceeds to block 516 where the data rate is incremented and SC count value is reset to zero. ....

To summarise the procedure described above with reference to the flowchart 500, it will be appreciated that an automatic data rate selection procedure has been described. ... If a station 22 doesn't receive the expected ACK message in return correctly and in due time, it will retransmit the original message packet at a lower data rate. If a station 22 does receive the expected ACK messages correctly and in due time from a particular station for a predetermined number of successive times, then it will transmit the next message to that station at a higher data rate. In this way the stations 22 adapt the operating data rate dependent on channel conditions (degradation by noise--SNR, time dispersion in the channel--delay spread) and co-channel interference (SIR).

Boer, col. 7, l. 12-col. 8. l. 16.

68. I observe that, just like the disclosure in Boer, nothing in the Kamerman presentation requires an indication that “communication from the master to the slave has reverted to the first modulation method.” Thus, it is my opinion that Kamerman’s presentation merely summarizes Boer et al.’s work described in Boer and does not provide any further information relevant to the patentability of claims 2 and 59. Thus, it would not raise an SNQ, alone or combined with Snell.

## **2. Yamano**

69. Based on my review of Yamano, it is my opinion that Yamano is at best<sup>6</sup> cumulative of Boer. Yamano discloses a destination address in the preamble 701 of a packet 700 as allegedly

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<sup>6</sup> I note that the combination of Snell and Yamano requires some motivation to combine the two references, while having the destination address in the same reference, i.e., Boer, does not.

corresponding to addressing a group of transmission sequences for an intended destination of the payload portion. Yamano at 19:63-64, 20:54-59, Fig. 8).<sup>7</sup> Boer discloses a destination address in the data field 214 of a message 200 (Boer at 6:28-31), which was relied on in the ‘518 IPR as meeting the “addressed for an intended destination of the payload portion” limitation. ‘518 Petition, at 23, and was *sub silentio* adopted by the PTAB. See ‘518 Final Written Decision, at 21 (determining, e.g., claims 1 and 58 were unpatentable). Thus Yamano adds nothing to Boer and could not raise an SNQ.

70. I have also reviewed U.S. Patent No. 5,537,398 to Siwiak (“Siwiak”), which discloses an address block 106 in the first transmission portion 102 of the transmission format protocol 100 (and not in the second transmission portion 104 that includes the message data 110), Siwiak at Fig. 2, col. 4, ll. 31-39. Siwiak was fully considered by the Office during prosecution of the ‘580 patent. *See* Office Action in Appl’n No. 12/543,910, at 4 (recognizing the address disclosure of Siwiak) (the “9-01-10 Office Action”); ‘580 Patent at p. 2 (listing Siwiak as a cited reference). Based on my review of Siwiak and the 9-01-10 Office Action, it is my opinion that Yamano is at best cumulative of Siwiak. For this second reason, Yamano could not have raised an SNQ.

## **VI. THE INCORPORATION BY REFERENCE ISSUE**

71. The Office relies on incorporation by reference of Harris AN9614 and Harris 4064.4 (“Harris Documents”) into Snell in its attempt to address some of the deficiencies of Snell, Yamano, and Kamerman. 3-31-17 Office Action, at 12-13, 15-16.

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<sup>7</sup> In my opinion, the fact that the destination address of Yamano is in the preamble while the destination address of Boer is in the data field is not relevant to claims 2 and 59, which do not require a destination address in any particular portion of the “group of transmission sequences” (claim 2) or “message” (claim 59). In any case, such a disclosure was already before the Office in Siwiak. *See* ¶ 70 below.

72. I understand that, in the circumstances of this case, a non-patent document *must be published*, i.e., available to those of ordinary skill in the relevant art to be incorporated by reference based on the requirements of 37 CFR. § 1.57 (e) limit the material that may be incorporated by reference:

(e) Other material (“Nonessential material”) may be incorporated by reference to U.S. patents, U.S. patent application publications, foreign patents, foreign published applications, prior and concurrently filed commonly owned U.S. applications, or non-patent publications. ....”

37 CFR. § 1.57 (e) (emphasis added).

73. I further understand that, if a non-patent document was not published before the filing date of a patent application attempting incorporation by reference of the non-patent document, any attempt to do so must fail. In this regard, in spite of my expertise in the relevant art, prior to the *Rembrandt v. Samsung* litigation, I was not aware of either Harris Document. Further, based on my experience in the art, from the face of these documents it cannot be discerned whether they were created solely for use internally within the Harris Corporation, or alternatively for use by the public.

74. Also, with respect to incorporation by reference, I understand that to “incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” *Advanced Display Systems, Inc. v. Kent State University*, 212 F.3d 1272 (Fed.Cir. 2000). In that regard, I have reviewed the portion of Snell at col. 5, lines 2-5, which provides as follows:

Various filters 36, and the illustrated voltage controlled oscillators 37 may also be provided as would be readily understood by those skilled in the art and as further described in the Harris PRISM 1 chip set literature, such as the application note No. AN9614, March 1996, the entire disclosure of which is incorporated herein by reference.

I have also reviewed Harris AN9614.

75. In my opinion, a person of ordinary skill in the art would interpret Snell's reference to "filters" and "voltage controlled oscillators" described in Harris AN9614 to include at most the discussion of (i) "External IF Filtering" on pages 1-2 of the application note, (ii) "Limitations of HFA3724 LPFs" on page 2 of the application note, and (iii) clock oscillators on page 2 of application note. A person of ordinary skill in the art would not interpret Snell's reference to "filters" and "voltage controlled oscillators" described in Harris AN9614 to include the statements on page 3 of Harris AN9614, as that page is directed to a different topic, *i.e.*, "High Rate Burst Transmissions With Low Average Rate."

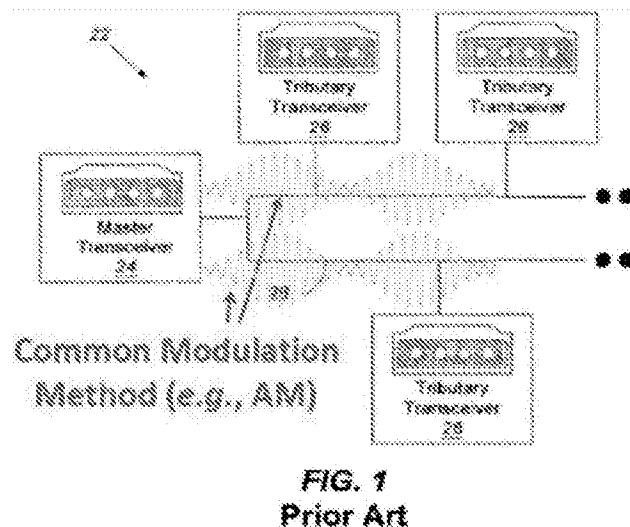
76. In any case, to the extent the Harris Documents are determined to have been legally incorporated by reference, they add nothing to Boer and the APA. *See* ¶¶ 55-62 above.

77. Further, Harris AN9614 merely makes vague reference to a "polled scheme" without indicating what configuration the document is referring to. Because the Harris Documents merely further describe PRISM™ (Harris's commercial device claimed in Snell, see Snell, at col. 1, ll. 47-54; col. 5, ll. 11-16), one of ordinary skill in the relevant art would have understood Harris AN9614's reference to a "polled scheme" to be referring to such a scheme in the context of PRISM's peer-to-peer communications and not to undisclosed master/slave communications. My opinion is further supported by the fact that PRISM, as described in Harris 4064.4, includes clear channel assessment (CCA) which is used "to avoid data collisions" (Snell, col. 5, ll. 23-29) as "a carrier sense multiple access (CSMA) networking scheme." Harris 4064.4, at 18, col. 2.

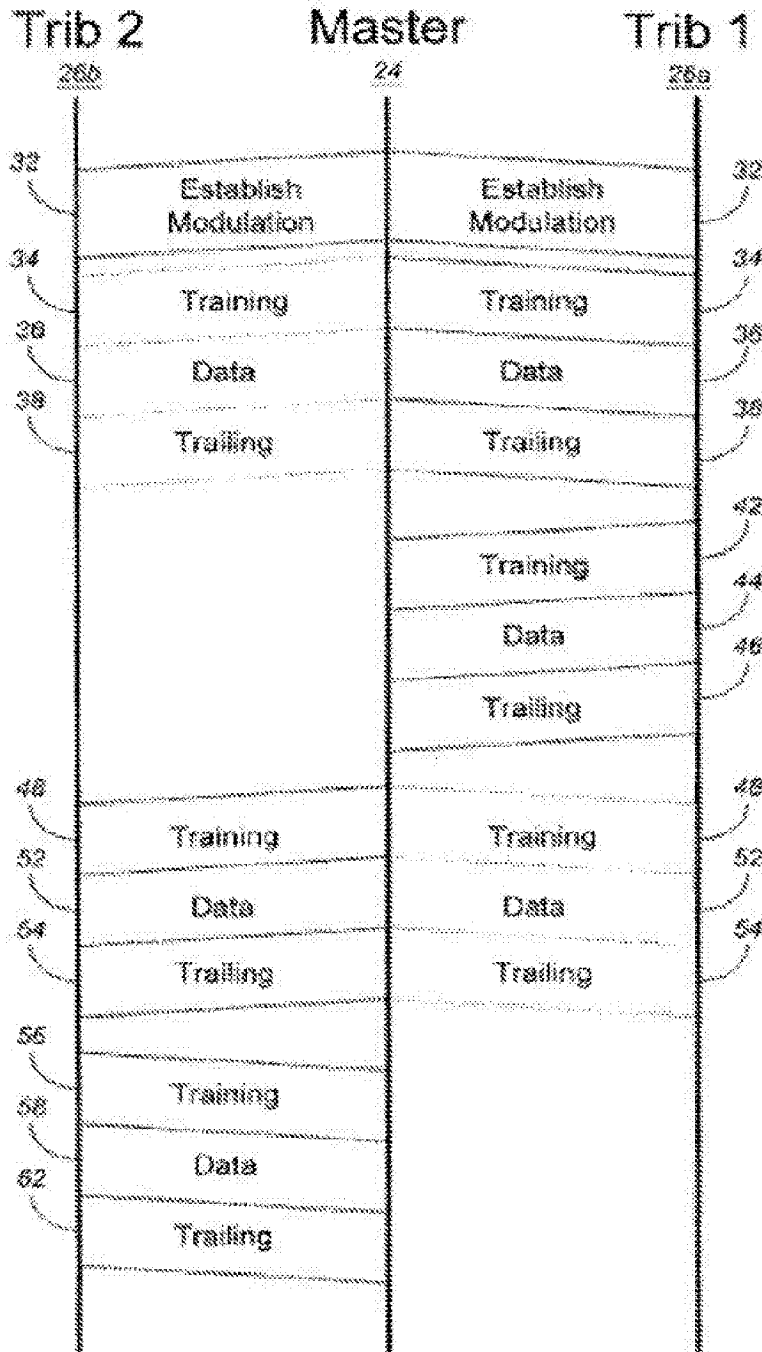
## VII. THE '580 PATENT TECHNOLOGY

### A. Brief Explanation of the State of Master/Slave Art Prior to the '580 Invention

78. According to the '580 Patent, prior art master/slave systems could only communicate when all network devices used a single common type of modulation method. *See* '580 Patent at 1:27-65, 3:40-48. Thus, if a slave using an additional type of modulation method were added to the network, the new slave could not easily communicate with the master using the different modulation type because it would not be compatible with the common type of modulation method. *Id.* Annotated figure 1 of the patents shows such a prior art master/slave system, where all devices in the network communicate using only a single common type of modulation method (such as the amplitude modulation used by AM radio), even though some of the devices may be capable of communication via other types of modulation methods:



79. The state of master/slave art prior to the '580 invention is described in the '580 Patent at col. 3, l. 40-col. 4, l. 50, with reference to Fig. 2.



**FIG. 2**

80. Briefly, Fig. 2 discloses a polled multipoint master/slave system. At the beginning of a session, the master established a common modulation type for communication with all its slaves (32 in Fig. 2). All slaves were identical in that they shared a common modulation with the master.



The master then communicated with its slaves, one at a time, by sending a training sequence with the address of the slave with which it wants to communicate, followed by data, and finally a trailing sequence to end the communication (34-38 in Fig. 2). A slave could not initiate a communication, but, if the slave was polled by the master, it could respond to the master in a similar fashion (42-46 in Fig. 2). When the master had completed its communications with the first slave, it could then communicate with a second slave using the *same* negotiated common modulation (48-54 in Fig. 2).

#### **B. The Problem Identified in the '580 Patent**

81. Again, with reference to Fig. 2, the problem Gordon Bremer identifies and addresses in his detailed description is as follows:

Consider the circumstance in which master transceiver 24 and trib 26b share a common modulation type A while trib 26a uses a second modulation type B. When master transceiver attempts to establish A as a common modulation during sequence 32, trib 26a will not be able to understand that communication. Moreover, trib 26a will not recognize its own address during training interval 34 and will therefore ignore data 36 and trailing sequence 38. Master transceiver 24 may time out waiting for a response from trib 26a because trib 26a will never transmit training sequence 42, data 44, and trailing sequence 46 due to the failure of trib 26a to recognize the communication request (training sequence 34) from master transceiver 24. Thus, if the tribs in a multipoint communication system use a plurality of modulation methods, the overall communication efficiency will be disrupted as specific tribs will be unable to decipher certain transmissions from the master transceiver and any unilateral transmission by a trib that has not been addressed by the master transceiver will violate the multipoint protocol. [col. 4, l. 55-col. 5, l. 6]

82. Summarizing the incompatibility problem Gordon Bremer identified:

- a) If the Master in the APA wanted to communicate with a slave using a second modulation method that was incompatible with that used to communicate with its other slaves, it was necessary to tear down the session and begin a new session. Doing so was disruptive.

- b) If the APA master attempted to communicate using an incompatible modulation type without beginning a new session, the other slaves would not understand the attempted communications and would not respond to any polling directed at them, resulting in repeated attempts by the Master to communicate. In addition, the slaves may be confused by the transmissions and make improper communication attempts.

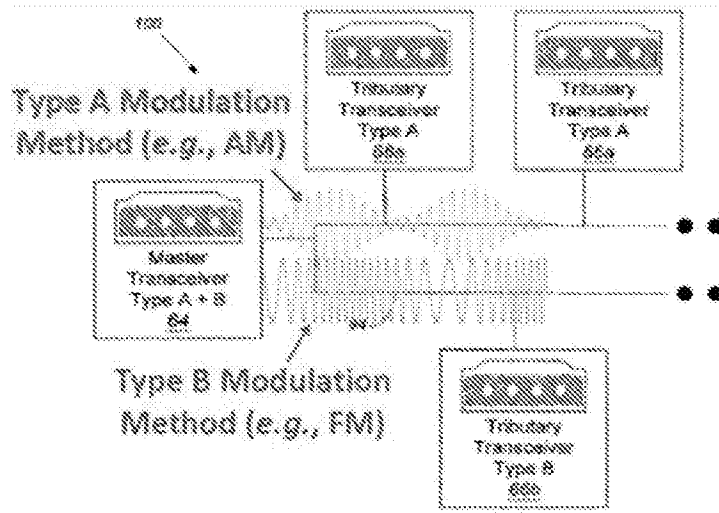
83. One of ordinary skill in the relevant art would have understood that Fig. 2 and its description do not disclose or suggest the incompatibility problem identified by Gordon Bremer, or even the goal of using incompatible modulations in one master/slave session.

**C. The '580 Solution to These Incompatibility Problems in a Master/Slave Setting**

84. In the context of the master/slave system described above, Gordon Bremer invented “a system and method of communication in which multiple modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been incompatible” (col. 2, ll. 17-20). Mr. Bremer solved the above-described incompatibility problem with his claimed master/slave communication system in which slaves can communicate over a network through a master using multiple types of modulation methods, thereby permitting selection of the modulation type best suited for a particular application. Col. 1, l. 66- col. 2, l. 33.

85. The claimed invention of the '580 Patent is further described with reference to Figure 2 and in Figures 3-8 and the written description. Specifically, Figures 3 and 4 show block diagrams of the master transceiver and tributary transceivers, while Figure 5 shows a ladder diagram illustrating the operation of those transceivers. Figures 6 and 7 show state diagrams for exemplary tributary transceivers. And Figure 8 shows a signal diagram for exemplary transmissions.

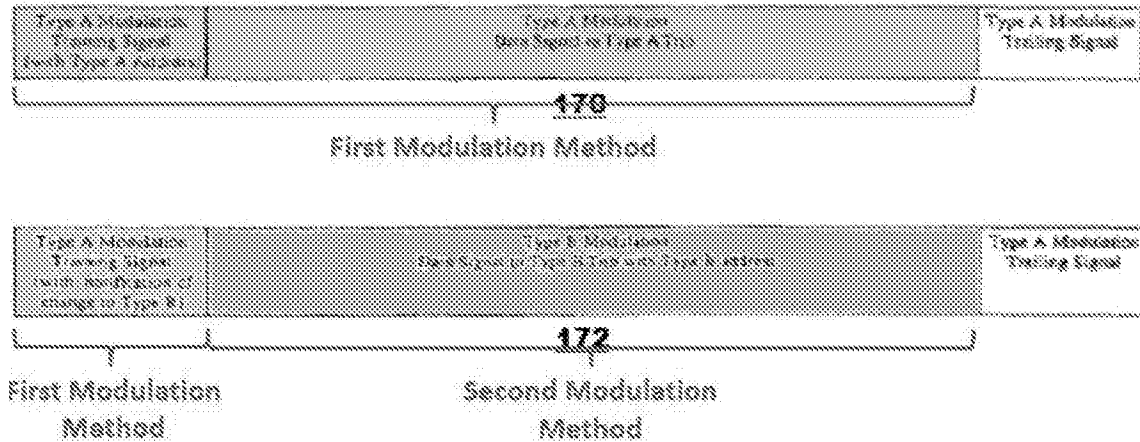
86. Annotated Fig. 4 shows an embodiment of the patented technology where some devices in the network communicate using one type of modulation method (e.g., amplitude modulation used by AM radio), while other devices communicate using a different type of modulation method (e.g., the frequency modulation used by FM radio):



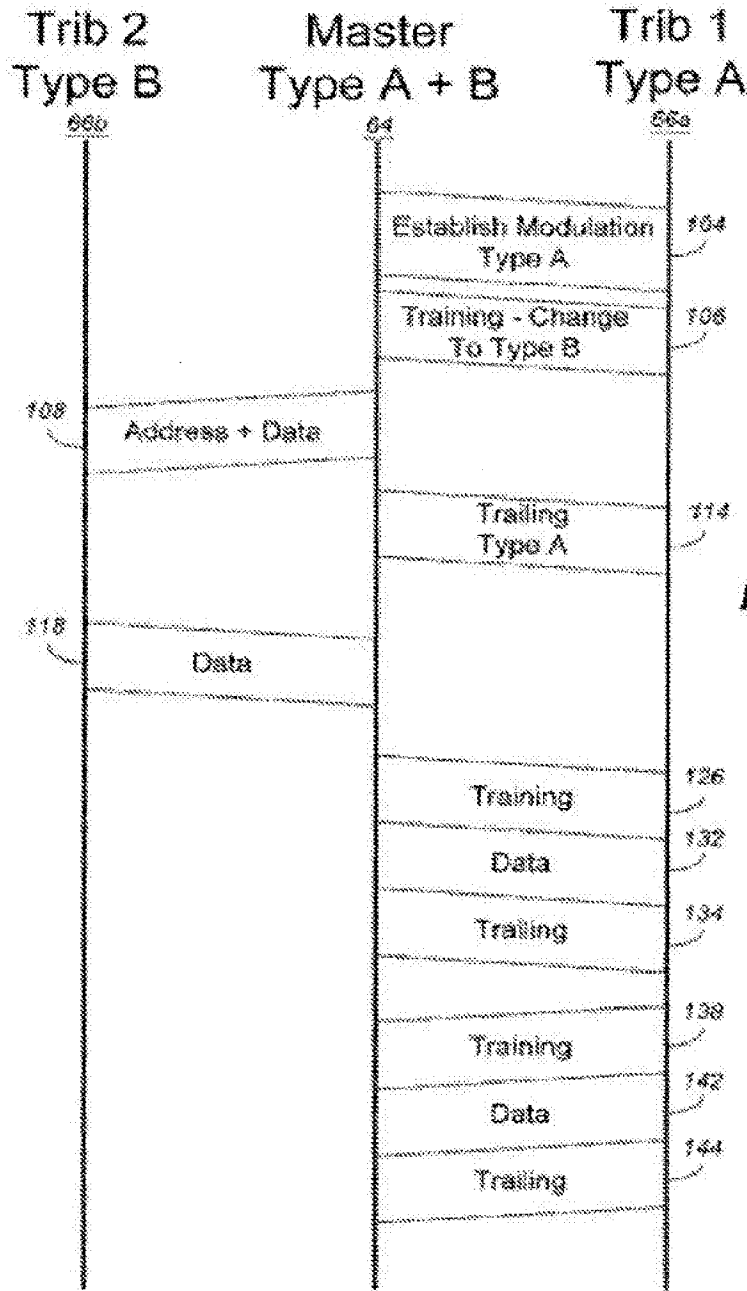
**FIG. 4**

Col. 5, ll. 47-56. Such a system provides for greater efficiency, seamless communication with all devices, backward-compatibility, and decreased costs. Col. 2, ll. 50-57; *see also* col. 1, l. 66-col. 2, l. 15.

87. Annotated Fig. 8 shows two communications intended for different slaves. The first communication 170 uses a first type of modulation method for both the initial training signal and the subsequent data signal, while communication 172 uses the first type of modulation method for the training signal and the second type of modulation method for the data signal:



Col. 4, ll. 21-24, 42-44, Fig. 8. Information in the training signal indicates whether there will be an impending change from the first type of modulation method to the second type of modulation method. *Id.* (training signal includes “notification of change to Type B” modulation method). Mr. Bremer’s solution is captured and claimed in his “switches” from one modulation type to another and is described with reference to Fig. 5:



**FIG. 5**

88. With reference to Fig. 5, if the Master is communicating with a Type A trib (“Trib 1 Type A”) using a negotiated first modulation type A in the normal fashion and then wants to communicate with a Type B trib (“Trib 2 Type B”), the Master transmits “first information” comprising a “*first sequence*” modulated according to the “first modulation method” (one that the Type A trib understands) comprising “*a first sequence*” that “indicates an impending change”

to a second modulation method (illustrated as 106). The Master then transmits to the Type B trib “second information for at least one group of transmission sequences compris[ing] *a second sequence* that is modulated according to the second modulation method,” which is “a different type than the first modulation method.” In the Fig. 5 embodiment, the “second sequence” is illustrated as 108 and uses the second type modulation method is one that the Type B trib can understand and Type A cannot.

89. It is at this point in the embodiment of Fig. 5 that the limitations of claim 2 (and similarly claim 59) come into play. To satisfy claim 2, the transceiver must be “configured to transmit *a third sequence* after the second sequence wherein the third sequence is transmitted in the first modulation method and *indicates that communication from the master to the slave has reverted to the first modulation method.*”

90. Again, with reference to Fig. 5, after the Master completes its communication with a Type B trib using Type B modulation (transmission sequence 108), the Master sends a “third sequence” to inform Type A trib that “communication from the Master has reverted to the first modulation method” (illustrated as 114, 126-132).

91. The ‘580 specification describes the claimed switches as follows:

To switch from type A modulation to type B modulation, master transceiver 64 transmits a training sequence 106 to type A trib 66a in which these trib 66a are notified of an impending change to type B modulation. ... After notifying the type A trib 66a of the change to type B modulation, master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b. .... [Col. 6, ll. 3-12.]

... If, however, master transceiver transmits a training sequence in which the type A trib 66a-66a are notified of a change to type B modulation as indicated by sequence 106, then a transition is made to state 124 where all type B transmissions are ignored until a type A modulation trailing sequence (e.g., sequence 114) is detected. Upon detecting the type A trailing sequence, a type A trib 66a returns to state 122 where it awaits a training sequence.” [Col. 6, ll. 41-48.]

To initiate a communication session with a type A trib 66a, master transceiver 64 transmits a training sequence 126 in which an address of a particular Type A trib 66a is identified. The identified Type A trib 66a recognizes its own address and transitions to state 128 to receive data from master transceiver 64 as part of sequence 132. [Col. 6, ll. 49-54.]

92. Thus, with reference to Fig. 5 (and using the language of claim 2), Mr. Bremer's switches include:

- a) "a first sequence" sent by the master using the first modulation method to inform the Type A trib of "an impending change" to a second modulation method -- one that is incompatible with the first -- telling Type A trib to ignore the second message's "second sequence" which they cannot understand and is not intended for them;
- b) a second sequence" sent by the master using the second, incompatible modulation method to the Type B trib -- one that does understand the communication; and
- c) a third sequence" sent by the master using the first modulation method to inform Type A trib that "communication from the Master has reverted to the first modulation method."

93. The combination of Gordon Bremer's claimed sequences captures his solution to the incompatibility problem, i.e., switching from one modulation type to another incompatible modulation type when switching from one trib type to another. None of the cited references discloses or suggests either the problem Mr. Bremer set out to solve in the master/slave setting, or his solution to that problem. *See* col. 5, l. 57 -- col. 7, l. 3 (describing Fig. 5).

## **VIII. THE ART RELIED ON BY THE OFFICE TO SUPPORT ITS ANTICIPATION AND OBVIOUSNESS REJECTIONS OF CLAIMS 2 AND 59**

### **A. Overview of the Art Relied on by the Office**

94. None of the cited art is directed to a master/slave system in which incompatible modulation methods are used by a master to communicate with its slaves. In fact, none of the art relied on in the 3-31-17 Office Action, *i.e.*, Snell, Kamerman, or Yamano, has anything to do with communications between a master and slave. Rather they each are directed to peer-to-peer

communications in which the modems, or stations, share a common modulation and thus are compatible with each other. These references were attempting to solve different problems created by their peer-to-peer configuration – e.g., increasing data rates while avoiding interference and collisions –and not the ‘580 incompatibility problem in a master/slave configuration. That is at least because master/slave and peer-to-peer configurations, or protocols, are fundamentally different protocol types.

95. Summarizing the fundamental differences between the ‘580 claimed invention and the relied-on art, Snell, Yamano, and Kamerman:

- a) Focus on peer-to-peer communications, such as those used in CSMA and CDMA, in which a *single* modem, or station, may, e.g., “switch on-the-fly between different data rates and/or formats.” (Snell, col. 2, ll. 27-30). *See also* Kamerman at 6 (“CSMA/CA protocol is designed to reduce the collision probability between multiple stations accessing the medium”); Yamano at col. 1, ll. 9-13 (“present invention relates to the reduction of the required amount of signal processing in a modulator/demodulator (modem) which is transferring packet-based data or other information..”).
- b) Do not have a master, or any other device, that negotiates a modulation type, polls slaves (or stations) and initiates all communications with the system’s slaves (or stations). *See* the cited references *passim*.
- c) Do not have slaves that may only respond when polled by a master. Instead, once part of the network, any of the stations in the cited references can initiate communications with any other station using a data rate it knows will work (in the absence of interference/collisions). *See, e.g.*, Kamerman, at 6 (“The basic medium access behavior allows interoperability between compatible PHYs through the use of CSMA/CA”).
- d) Identify and solve very different problems –e.g., collision or interference avoidance—than those Bremer identified and solved using very different solutions. *See, e.g.*, Snell, at col. 5, ll. 23-29 (providing” a clear channel assessment (CCA) to avoid data collisions”); Kamerman, at 11 (“At higher load the transmissions from the access point to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference.”). Notably, interference and collision avoidance is completely unnecessary in a master/slave setting because the master controls all communications. Thus, there would have been no motivation to employ



the prior art solutions used to avoid interference or collisions in order to solve Bremer's incompatibility problem in a master/slave setting.

96. Thus, in my opinion, the problems addressed by Snell, Yamano, and Kamerman would not have been relevant to those identified and addressed by the '580 Patent. Just like Boer, Snell was interested in providing a transceiver that could operate at higher data rates than previously provided while avoiding collisions by only transmitting when the communication channel was clear. *See* Snell, col. 2, ll. 22-25; col. 3, ll. 41-44; col. 5, ll. 23-29. *See also* Kamerman at 11. As noted previously, such a problem does not occur in a master/slave setting because the master controls communications with its slaves. In contrast and as explained above, Mr. Bremer invented a way for the master to communicate with slaves that utilized incompatible modulation types without tearing down the system to make a switch from one modulation type to another. Mr. Bremer's solution is captured, in part, in his third sequence.

97. None of Snell, Yamano, or Kamerman even recognizes an incompatibility problem that needed solving. Rather Snell's switches, just like Boer's, were for very different reasons, i.e., to address/minimize collisions and interferences. Because of these substantial differences, one skilled in the art would not have been motivated to combine Snell, Yamano, and Kamerman – if at all -- in a way that would have yielded Bremer's claimed invention without using the claimed invention as a roadmap. More specifically, primarily because of these substantial differences, one skilled in the art would not have been motivated to solve the '580 problem in a master/slave setting in the way Mr. Bremer did. That solution included, among other things, the claimed first and second modulation types and the claimed sequences, particularly the third sequence, arranged as claimed. None of the Office's relied-on art, alone or together, discloses or would have suggested these claim elements.

**B. Claim Limitations Missing From All References and All Grounds of Rejection**

98. The Office has rejected claims 2 and 59 of the '580 Patent as allegedly (i) anticipated by Snell, (ii) unpatentable over Snell in view of Yamano, and (iii) unpatentable over Snell in view of Yamano and Kamerman. 3-31-17 Office Action, at 8-20. Based on my review of these references, as combined, I conclude that all three bases for rejection fail to establish unpatentability because the following three limitations are missing from all of the relied-on art and would not have been obvious based on any of the Office's grounds of rejection. Those missing limitations are (i) "the master/slave relationship," (ii) the "two [different] types of modulation methods," and (iii) "the third sequence."

99. With respect to both claims, those missing limitations are found in the following claim language:

- (i) "A communications device capable of communicating according to a master/slave relationship in which a slave communication [or message] from a slave to a master occurs in response to a master communication [or message] from the master to the slave, the device comprising: a transceiver, in the role of the master according to the master/slave relationship,"
- (ii) for sending or transmitting "at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method," and
- (iii) "configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method."

100. The primary reference, Snell, alone or in view of Yamano and/or Kamerman, does not disclose and would not have suggested any of these three limitations to one of ordinary skill in the relevant art.

## 1. The Claimed Master/Slave Relationship

101. Claims 2 and 59 require “a master/slave relationship in which a slave communication [or message] from a slave to a master occurs in response to a master communication [or message] from the master to the slave.” They also require that the “transceiver” act “in the role of the master according to the master/slave relationship.” Considered together, these limitations require “a transceiver in the role of the master according to the master/slave relationship [in which a slave communication or message from a slave to a master occurs in response to a master communication or message from the master to the slave].”

102. To address these requirements, the Office has drawn the following summary conclusions relying *solely* on Snell’s “teaching” of the claimed master/slave relationship to support each of its three grounds of rejection:

- (1) “Snell *teaches* a communication device (Abstract, Figs. 1-2 and 5-8) capable<sup>8</sup> of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (the transceiver of Snell is capable of such communication), the device comprising: a transceiver (Fig. 1), in the role of the master according to the master/slave relationship ...” (3-31 Office Action, at 9 (emphasis added)) (without supporting citations for the alleged teaching of the claimed master/slave relationship) (§ 102(e) rejection of claim 2 based on Snell);

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<sup>8</sup> The Office repeatedly uses the phrase “capable of.” However, I note that the claims require that the claimed transceiver be “configured to” transmit the claimed sequences (claim 58) and, more specifically, to transmit the claimed third sequence (claims 2 and 59). Thus, in my opinion, the claimed transceiver must be configured in a particular way to satisfy the claim limitations. See ¶¶ above 18, 21-25 (discussing claim construction).

- (2) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (Fig. 1), in the role of the master according to the master/slave relationship ...” (3-31 Office Action, at 10 (emphasis added)) (again without supporting citations for the alleged teaching of the claimed master/slave relationship) (§ 102(e) rejection of claim 59 based on Snell);
- (3) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1; Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell) ...” (3-31 Office Action, at 12 (emphasis added)) (citations in quoted text) (§ 103(a) rejection of claim 2 based on Snell in view of Yamano); and
- (4) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1, Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell), in the role of the master according to the

master/slave relationship ....” (3-31 Office Action, at 15 (emphasis added)) ((citations in quoted text) (§ 103(a) rejection of claim 59 based on Snell in view of Yamano).<sup>9</sup>

103. I have carefully reviewed these summary conclusions and the citations allegedly supporting them and find no mention or suggestion of the words “master” or “slave” in any of them, let alone an express teaching of the master/slave relationship as claimed.<sup>10</sup>

**a. Snell’s Carrier Sense Transceiver and The Claimed Master/Slave System**

104. The primary reference, Snell, discloses a transceiver 30 (Snell at Fig. 1, 4:42-43) designed for peer-to-peer communications, such as carrier sense multiple access with collision avoidance (CSMA/CA) communications. *See* Snell at 5:26-29 (disclosing that Snell’s transceiver includes a “CCA circuit block 44” that “provides a clear channel assessment (CCA) to avoid data collisions,” i.e., collisions which do not occur in a master/slave setting). *See also* Fig. 1. Systems that implement a CSMA/CA protocol for collision avoidance are distinctly different than a master/slave system. In a CSMA/CA system, any device on the network can

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<sup>9</sup> With respect to the master/slave limitations, the Office relies on the reasoning set forth in the § 103(a) rejection based on Snell in view of Yamano to support her § 103(a) rejection based on Snell in view of Yamano and Kamerman and thus provides no additional explanation or citations to support her position that the master/slave relationship is disclosed or would have been obvious based on the three references. (*See* 3-31-17 Office Action, at 17-20).

<sup>10</sup> To the extent that the Office relies on page 3 of Harris AN9614 to address the master/slave limitations, I understand that (1) Harris AN9614 is not prior art and thus, legally, could not have been incorporated by reference (*see* ¶¶ 72-73 above) and (2) the portions of Harris AN9614 that Snell attempted to incorporate by reference have nothing to do with a master/slave relationship and are found on the first two pages of Harris AN9614, not the page relied on by the Office. *See* ¶¶ 74-77 above. Significantly, page 3 of Harris AN9614 is silent about a master/slave relationship and does not even mention “master/slave” or “master” or “slave.” In any case, Harris AN9614 uses its “polled scheme” in the context of peer-to-peer communications (which is the topic being discussed in Snell and Harris AN9614), not master/slave communications. Not even with hindsight would one of ordinary skill in the relevant art have surmised the polled scheme of Harris AN9614 as being used in a context other than peer-to-peer communications.

initiate a communication whenever the device determines that no other communications are occurring.

In stark contrast, the claims of the '580 Patent are limited to master/slave communications, as noted above, in which slave devices can only communicate on a network when prompted by a master. Because of this fundamental difference, the problem the '580 Patent set out to solve within the context of a more rigid master/slave setting was not one faced by Snell, and the solution claimed in the '580 Patent is not one disclosed or suggested by Snell. *See* the discussion above, at ¶¶ 94-97. Thus, Snell does not disclose and would not have suggested master/slave communications, let alone the master/slave relationship claimed in the '580 Patent.<sup>11</sup> In my opinion, the rejections in this case are based on hindsight – with the claimed invention of the '580 Patent used as a roadmap.

105. Further, even if the problem identified in the '580 Patent had been previously identified (which I see no evidence of in the documents I've reviewed), a skilled artisan simply would not have known how to configure Snell's transceiver to address that problem as is described and claimed in the '580 Patent.

106. I observe that, with respect to the master/slave relationship limitations in both claims 2 and 59, the Office merely concludes – without explaining its position – that “the transceiver of Snell is capable of such communication.” 3-31-17 Office Action, at 9. *See also id.* at 10, 12, 15

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<sup>11</sup> The same is true of Kamerman and Yamano in that they also describe peer-to-peer communications– again, fundamentally different than the claimed master/slave system in the '580 Patent. Kamerman expressly relates to “wireless LANs that operate to conform to the IEEE 802.11 DSSS (direct sequence spread spectrum) standard.” Kamerman at 6 (disclosing that IEEE 802.11 is compatible with a “CSMA/CS (carrier sense multiple access with collision avoidance” protocol). *See also id.* at 8 (“IEEE 802.11 CSMA/CA”), *id.* at 12 (“[t]he CSMA/CA behavior of wireless LANs operating to conform to IEEE 802.11 DS”). *See* Yamano, at col. 19, ll. 21-36 (recommending using ‘a carrier sense multiple access (CSMA) scheme”). Like Snell, Yamano and Kamerman are completely silent regarding any master/slave communications.

(with citations to Snell). Based on my review of the cited art, there is no evidence supporting the Office's summary conclusion that Snell's transceiver is, in fact, of a design either capable of or configured to communicate in the manner required by the claims.

107. Based on my understanding of the requirements of a § 102(e) rejection (identified in ¶¶ 28-30 above), I opine that the Office's failure to establish that Snell's transceiver (without modification) is capable of functioning "in the role of the master according to the master/slave relationship" defeats its § 102(e) rejection based on Snell.

108. With respect to the Office's two § 103(a) rejections, the Office again relies on the summary conclusion that "Snell teaches a communication device capable of communicating according to a master/slave relationship." Office Action, at 12 (citing Snell at Fig. 1, 1:34-46, 1:47-50, 1:55-57, 4:27-30, 4:42-47, 5:2-7; Harris AN9614 at p. 3). However, as noted above, the materials cited do not mention "master/slave" or "master" or "slave," and the Office does not explain where such a teaching or suggestion is found in Snell (or any of the other cited materials).

109. In my opinion, the Office has failed to explain how Snell's transceiver (even with modification) would have been "capable of communicating according to a master/slave relationship" and thus would have rendered that claims 2 and 59 of the '580 Patent obvious. Given the fundamental differences between Snell's teachings and those in the '580 Patent, it is my opinion that claims 2 and 59 would not have been obvious based on Snell, alone or in the combinations suggested by the Office.

**b. The Office's Reliance on "Incorporation by Reference" of Harris AN9614**

110. The Office states that "Harris AN9614 is incorporated by reference" in Snell. Office Action, at 12 (citing Snell, at col. 5, ll. 2-7). However, for the reasons set forth above, I

understand that Harris AN9614 was not published before the December 5, 1997, priority date of the '580 patent and, therefore, is not prior art and could not have been properly incorporated by reference into Snell because of the legal restrictions on what materials can be so incorporated.

*See* ¶¶ 72-73 above.

111. In any case, the Office does not explain how Harris AN9614 supports its position that Snell's transceiver is configured to act in the "role of master" and to communicate "according to a master/slave relationship" as claimed. *If* the Office is relying on language in Harris AN9614 discussing a "polled scheme" (found on page 3 of Harris AN9614), for the reasons set forth above in ¶¶ 74-75, I understand that the attempted incorporation by reference of the "polled scheme" discussion fails for a second reason: Snell did not identify that specific material with detailed particularity but rather identified discussions of filters and oscillators – topics that have nothing to do with the "polled scheme" and that appear in a different section of Harris AN9614.

*See* ¶¶ 76-77 above.

112. In any case, *even if*, contrary to the case we have here, (1) Harris AN9614 were prior art so, as a matter of law, it could have been incorporated by reference *and* (2) the Office were relying on the "polled scheme" discussion in Harris AN9614 *and* (3) the sections discussing the "polled scheme" were properly incorporated, I opine that those sections do not disclose and would not have suggested the claimed "master/slave relationship" for the reasons given below.

**c. No Inherent Disclosure Of The Claimed Master/Slave Relationship From The "Polled Scheme" in Harris AN9614**

113. I observe that, without explaining its relevance, the Office cites to page 3 of Harris AN9614 in an attempt to establish that Snell teaches "a communication device capable of communication device capable of communicating according to a master in a master/slave relationship," as recited in claims 2 and 59. 3-31-17 Office Action, at 12. *See also id.* at 15 ("to



the extent that the preamble is given patentable weight, Snell teaches it”). Assuming the Office is relying on the discussion of the “polled scheme” on page 3 of Harris AN9614, that page does not even mention “master” or “master/slave” but instead merely states:

With a low power watch crystal, the controller [of the PRISM chip set] can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any.

Harris AN9614 at 3.

114. Given the brevity of this discussion, and the fact that both Snell and Harris AN9614 are focused on peer-to-peer communications, one of ordinary skill in the relevant art would have concluded that the discussion of a “polled scheme” refers to polling as part of peer-to-peer communications, not master/slave communications. One of ordinary skill would not have understood the Harris AN9614 discussion as suggesting more.

115. Assuming for the sake of argument that the “polling scheme” on page 3 of Harris AN9614 had been properly incorporated into Snell, to the extent the Office is implying that the master/slave limitations of the claims are inherently disclosed in Snell (by incorporation of Harris AN9614), I disagree, based on my understanding of inherency (described above in ¶ 37).

116. I see no evidence that the Office has provided any “basis in fact and/or technical reasoning to reasonably support” the determination that the master/slave limitations in the challenged claims necessarily flow from the teachings of Snell (even with Harris AN9614 incorporated in Snell).

117. Moreover, a “master/slave relationship” is not inherent in Harris AN9614’s “polling scheme,” because polling can and does take place in peer-to-peer systems (like the CCA systems described at col. 5, lines 26-29 of Snell).

118. For example, node A and node B could communicate according to a polled scheme in which (i) node A polls node B to request information from node B, (ii) after node B sends the requested information to node A, node B polls node A to request information from node A, and (iii) node A sends the requested information to node B. In this way, nodes A and B would use a polled scheme to communicate, but neither of nodes A and B would be a master or slave. *See* “Telecommunications network,” at 2, Britannica Online Encyclopedia (“A decentralized form of polling is called token passing. In this system, a special “token” packet is passed from node to node. Only the node with the token is authorized to transmit; all others are listeners.”)).

119. To the extent that the Office is equating Harris AN9614’s “polled scheme” to a master/slave configuration, that position is based on a faulty understanding of the scope of “polling” in the relevant art and on an incorrect reading of Harris AN9614 and the ‘580 Patent. While polling can also take place in a master/slave system, *see* ‘580 Patent at 4: 6-9 (describing its master/slave protocol as a “polled multipoint communications protocol,”) that discussion does not limit polling – which is a more general term in the relevant art -- to master/slave protocols but rather describes one aspect of the claimed protocol. In fact, there is no suggestion in Harris AN9614 that its “polled scheme” is taking place in anything other than the peer-to-peer communications protocol being discussed in Harris AN9614. *See* Harris AN9614 at 3.

120. Based on my analysis above, in my opinion, Harris AN9614 does not inherently disclose and would not have suggested that its “polled scheme” includes “a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master

communication from the master to the slave,” as required by claim 1 of the ’580 patent (and by the similar recitation of claim 58 of the ’580 patent).

## **2. The Claimed At Least Two Different Types of Modulation Methods**

121. Each of the challenged claims requires that “the second modulation method is of a different type than the first modulation method.” As explained above (*see* ¶ 20), and confirmed by the Federal Circuit, the proper construction of “different types of modulation methods” is “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, Docket No. 2016-1729, slip op. at 7 (April 17, 2017) (“the clearest statement in the intrinsic record regarding the meaning of the “different types” limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not diminish this unambiguous statement in the prosecution history.”).

122. In my opinion, the Federal Circuit’s determination is consistent with the broadest reasonable construction of “different types of modulation methods,” when considered in light of the intrinsic record, including the ’580 specification and its prosecution history.

123. The Office appears to take the position that the “different type” limitation is met by the two PSK formats disclosed in Snell, namely the BPSK format and QPSK format.<sup>12</sup> *See* 3-31-17 Office Action, at 12 (citing Snell at Abstract, col. 1, ll. 58-61, co. 2, ll. 56-59, col. 2, l. 61-col. 3,

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<sup>12</sup> There is no clear statement in the Office Action explaining what disclosure in the cited art satisfies the “at least two types of modulation methods.” *See* 3-31-17 Office Action *passim*.

l. 5, col. 6, ll. 64-66, col. 7, ll. 6-8, Figs. 2, 3, and 5,<sup>13</sup> Harris 4064.4, at 14-16). In my opinion, the Office's position conflicts with the broadest reasonable construction of "different types," as there can be no dispute that BPSK format and QPSK are in the same family. I further opine that, based on my review of Yamano and Kamerman, neither cures this deficiency.

124. Further, even under the Office's overly broad, flawed claim construction in which it defines "Different types of modulation method[s]" to mean "modulation methods that are incompatible with one another" (3-31-17 Office Action, at 7), the Office's rejection fails because this requirement is not disclosed nor would it have been suggested by any of the cited references, as none discloses or would have suggested any incompatibility problem whatsoever.

125. The Office does not define the term "incompatible," but, in the context of the '580 Patent, first and second modulation methods may be incompatible when, for example, one modem using the first method cannot communicate with a second modem using the second method. *See* the '580 Patent, col. 1, ll. 45-65. Importantly, whether two modulation methods are incompatible, as used in the '580 Patent, cannot be considered in a vacuum but rather depends on the context in which the term or phrase is being used. In my opinion, in the case of Snell, there is no issue of incompatible modulation methods because Snell lacks an incompatibility problem.

126. The lack of any incompatibility problem faced in the cited references explains why none of Snell (including Harris AN9614 and Harris 4064.4), Yamano, or Kamerman discloses the invention claimed in the '580 Patent, including the indication that "communication from the master to the slave has reverted to the first modulation method." That incompatibility problem was identified and solved in a master/slave setting, as described in the '580 Patent, and was

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<sup>13</sup> While the cited figures and Harris 4064.4 refer to "DBPSK" and "DQPSK," the inclusion of "D" (Differential) does not change the family in which the modulation method falls. They remain in the same family.

specific to a master/slave setting when a master attempts to communicate with a slave using an incompatible modulation method.

127. Part of the solution claimed in the '580 Patent requires the master to indicate when communication has reverted to the first modulation method so that the master can communicate using the first modulation method rather than the incompatible method previously used.

128. Again, in my opinion, the named inventors of the peer-to-peer communications systems described in the references were not faced with that problem. Instead they were faced with different problems that resulted from the fundamentally different ways their peer-to-peer systems accessed the shared medium. Those “fundamentally different ways” involve peer-to-peer communications, such as CSMA and CDMA types, instead of those between a master and a slave.

129. More specifically, the problems Snell (including Harris 4064.4), Yamano, and Kamerman were facing and attempting to address as the result of peer-to-peer communications, while at the same time attempting to increase data rates for communications between the stations, were, e.g., collisions, interference, and the like. *See, e.g.*, Snell at col. 1, l. 64-col. 2, l. 19 (describing a problem with prior art DSSS); col. 2, ll. 22-30 (summarizing Snell’s solution to the problem); col. 3, ll. 40-43 (discussing the need for a “clear channel”); col. 5, ll. 23-29 (identifying how “to avoid data collisions”); and col. 5, ll. 54-59 (identifying how to “combat multi-path and reduce the effects of interference”); Yamano, at col. 11, l. 62-col. 12, l. 9 (explaining the interference problem); col. 19, ll. 21-36 (explaining how to address the collision problem using CSMA system); Kamerman, at 6 (explaining how CSMA/CA “is designed to reduce the collision probability between multiple stations”); 11 (discussing the problem “due to mutilation of transmissions by interference”).

130. For these reasons, even under the Office’s overly broad claim construction, the cited references neither identify nor address incompatible modulation methods, as are addressed in the ‘580 Patent in a master/slave setting when attempting to allow a master to communicate using different, incompatible modulation methods. Thus, they do not disclose and would not have suggested the problem of incompatible modulation methods, let alone the claimed solution to that problem provided in the ‘580 Patent. Without recognition of the incompatibility problem created by incompatible modulation methods in a master/slave setting, one skilled in the art would not have turned to any of the peer-to-peer disclosures in the cited references to solve that problem and would not have been motivated to combine the cited art in the way the Office is suggesting.

### **3. The Claimed Third Sequence**

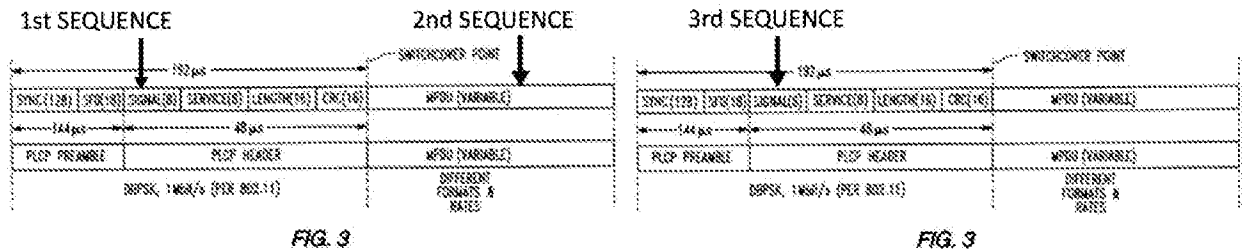
131. Claims 2 and 59 require that “the transceiver [be] configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method *and* indicates that communication from the master to the slave has reverted to the first modulation method.” Thus, the “third sequence” requires more than just being “transmitted in the first modulation method,” i.e., the word “and” requires it to contain information that “indicates that communication from the master to the slave has reverted to the first modulation method.”

132. Based on my review of the cited references, I opine that they do not disclose and would not have suggested the claimed transceiver capable of transmitting the claimed “third sequence [that] is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.”

133. Again, the reason why Snell and the other references do not teach and would not have suggested the claimed invention is because of the fundamentally different systems and the very

different problems/solutions presented due to those fundamental differences. *See* the discussion above at ¶¶ 94-97. Only through a contrived application of disclosures in the prior art peer-to-peer communication systems is the Office able to arrive at the invention claimed in the ‘580 Patent, including the third sequence, a sequence that permits a master to communicate with one or more slaves using a modulation type that is incompatible with that used by other slaves in a master/slave system. *See* ¶ 131. Notably, in the ‘518 IPR, the PTAB refused to do what the Office is now attempting to do. *See* the ‘518 IPR Institution Decision, at 13-15 (quoted above in ¶ 52).

134. The Office posits that the PLCP preamble and the PLCP header of Snell in an Office-created “next packet” correspond to the claimed “third sequence.” 3-31-17 Office Action at 13, 16 (citing Snell and stating that “PLCP preamble and PLCP header is ‘transmitted in the first modulation method’ e.g., BPSK, ... the data can be modulated according to a method different than BPSK, then a ‘third sequence,’ with its ‘SIGNAL’ field in the PLCP header, ‘indicates,’ e.g., using ‘0Ah,’ the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence”). *See also* 3-31-17 Office Action at 11 (citing Snell and taking substantially the same position). That is, the Office posits two instances of Fig. 3, as illustrated below: (1) a first instance that contains a “first sequence” (the SIGNAL field in the PLCP header) and a “second sequence” (the MPDU data field); and (2) an Office-created second instance (a “next packet”) that contains a “third sequence” (the SIGNAL field purportedly containing “0Ah” indicating that the MPDU data field is transmitted at 1 Mbps and BPSK).



135. With respect to the third sequence limitation, the rejections cannot stand for at least four reasons. First, the citations relied on by the Office merely support the position that, while the header is always transmitted at 1 Mbit/s BPSK, the “MPDU is variable” (Snell at 6:62-65), and may be sent using BPSK or QPSK. *See* Snell 7:10-14 (“The variable data may be modulated and demodulated in different formats than the header portion ...”).

136. The PTAB previously considered substantially the same argument with respect to substantially the same disclosure in Boer<sup>14</sup> and concluded such a disclosure was not sufficient to even institute an IPR of claims 2 and 59 because that disclosure failed to show “how the SIGNAL and SERVICE fields might be deemed, as alleged, to ‘indicate’ that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2” and claim 59. *See* ‘518 Institution Decision, at 13-15 (quoted more extensively in ¶ 52).

137. Second, Snell’s SIGNAL field in the PLCP header does not explicitly or inherently teach that the SIGNAL field “indicates that communication [*i.e.*, the MPDU data] from the master to the slave has reverted to the first modulation method.” Thus, the SIGNAL field cannot be the claimed “third sequence.”

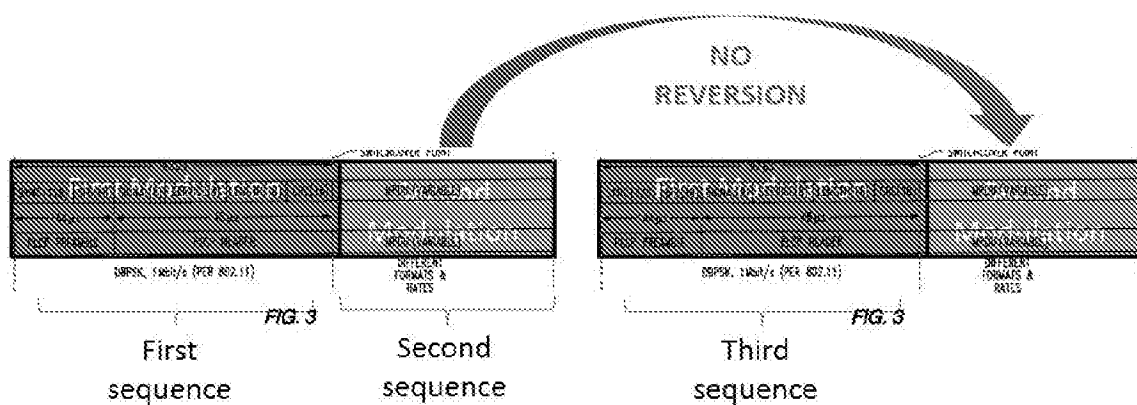
138. More specifically, claims 2 and 59 require a very specific ordering of sequences: a “first sequence” in a “first modulation method,” followed by a “second sequence” in a “second

<sup>14</sup> See a comparison of the way Snell’s Fig. 3 and Boer’s Fig. 4 were presented in Exhibit D.



modulation method,” followed by a “third sequence” in a “first modulation method,” whereby the “third sequence” indicates that subsequent “communication” in a next set of information will “revert” to the “first modulation method” (and not use the “second modulation method” of the “second sequence”). Based on my review of Snell, Snell does not teach and would not have suggested this specific ordering of sequences and only includes one instance of Fig. 3. Thus, in my opinion, Fig. 3 does not explicitly teach the claimed “reversion,” nor is that teaching inherent in Snell.

139. Even the Office’s imagined two instances of Fig. 3 does not teach the claimed “reversion,” as the skilled artisan would understand that both packets in the Office’s scenario are identical. Thus, if based on Snell’s disclosure, one assigns first and second modulation methods to the SIGNAL and data fields (i.e., in the claim’s terms, to the first and second sequences) in the first instance of Fig. 3, then the skilled artisan would have envisioned the same assignment to the SIGNAL and data fields, i.e., the same first and second modulation methods, to the second instance of Fig. 3. Such a repetition does not meet the claim limitation requiring reversion to the first modulation method as shown in the drawing below:



140. Additionally, even assuming that the data *may be* in one of four formats, there is no teaching or suggestion in Snell *requiring* the claimed reversion which is what I understand to be required by law for an inherency teaching. The fact that one of the formats *may* result in using

the first modulation method, it is at least equally possible that it will not do so, particularly given Snell's goal to *increase* the data rate. Thus, the use of two Figs. 3 does not inherently meet the claims' requirement that the SIGNAL field "indicate[] that communication from the master to the slave has reverted to the first modulation method."

141. Summarizing, nowhere does Snell explicitly or inherently teach two different instances of Fig. 3—much less a first instance of Fig. 3 with a MPDU data field modulated using QPSK and an immediately subsequent second instance of Fig. 3 with a SIGNAL field indicating its MPDU data field will "revert" to using BPSK modulation with a 1 Mbps data rate. Snell does not disclose and would not have suggested different versions of its Fig. 3 packet and SIGNAL field functions combined in the way the Office has attempted to combine them without using hindsight, i.e., in view of the '580 Patent teachings.

142. Third, Snell does not disclose and would not have suggested a master/slave relationship and therefore could not "indicate[] that communication from the master to the slave has reverted to the first modulation method." Further, even assuming, *arguendo*, that it would have been obvious to modify Snell to be a master/slave system, one skilled in the art would have used the same signal format of Fig. 3 of Snell which, as described above, does not explicitly or inherently teach a "third sequence . . . [that] indicates that communication . . . has reverted to the first modulation method."

143. Fourth, Snell discloses "switch[ing] on-the-fly between different data rates and/or formats," Snell at 2:29-30, but not in the manner claimed or for the reason behind the '580 claims. More specifically, the ability of Snell's transceiver to "switch on-the-fly" is not a teaching of sending multiple packets of the signal format shown in Fig. 3 that switch from using a second modulation method *for the payload portion* of the first packet to using a first

modulation method *for the payload portion* of the second packet (labelled the “next packet”).

See Snell at Fig. 3.

144. That is, Snell’s on-the-fly switching does not teach and would not have suggested that the claimed “third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method,” as the Office posits. To the contrary, the on-the-fly switching of Snell relates to a modulation switch between the PLCP header and the MPDU *variable* data portion *within a single* packet having the signal format shown in Fig. 3. See Snell at Fig. 3 (clearly showing the “switchover point” to be between the PLCP header and the MPDU variable data portion of the signal format), Snell 3:18-20 (“The carrier tracking loops permit switching to the desired format after the header and on-the-fly.” Snell 7:10-14 (“The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.”). Snell does not disclose and would not have suggested first and second packets of the signal format shown in Fig. 3 having payload portions modulated using different methods and certainly does not disclose and would not have suggested the Office-created second packet without using the claimed invention as a roadmap.

145. Accordingly, Snell does not disclose and would not have suggested that Snell’s transceiver “is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” In fact, there would have been no motivation for Snell to “indicate” a reversion to “the first modulation method” because Snell can transmit/receive using all modulation methods. In other words, there was no

incompatibility issue that required such notification when a switch in modulation methods is made such as that required by claims 2 and 59 of the '580 Patent.

146. Based on my review of Yamano and Kamerman, I opine that neither discloses or would have suggested the claimed third sequence. I observe that Yamano is only applied for its disclosure of a destination address in an effort to provide an address “for an intended destination of the payload portion” as recited in independent claim 1 (3-31-17 Office Action, at 14), and an address “for an intended destination of the second sequence,” as recited in independent claim 58 (3-31-17 Office Action at 16-17), and is not applied to the “third sequence” limitation, so it will not be further discussed here. Yamano is discussed further in ¶¶ 69-70 above.

147. As to Kamerman, the Office concludes that “[a] person of ordinary skill in the art would have been motivated and found it obvious to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell’s system for communicating data packets modulated according to different modulation methods to advantageously maximize the data transfer rate and adapt to changing channel conditions.” 3-31-17 Office Action, at 19 (citing Kamerman at 6, 11-12).

148. Based on my review of Kamerman, just like previously and fully considered Boer (*see* Boer, at 7:12-8:16), it discloses a transmission rate that “falls back” during higher load conditions and that “goes up” during load conditions that occur “most of the time.” Kamerman at 11. There is no teaching or suggestion that it would “fall back” to address an incompatibility issue when a master – which it does not have and would not have suggested – wants to communicate with a slave – which it does not have and would not have suggested. Just like the disclosure in Boer, nothing in Kamerman relied on by the Office requires that the transceiver in

Kammerman “indicate[] that communication from the master to the slave has reverted to the first modulation method.” Rather, Kamerman merely summarizes Boer’s, his, and other’s work<sup>15</sup> described in the Boer patent and does not provide any further information relevant to the patentability of claims 2 and 59. *See* my previous discussion of Kamerman, at ¶¶ 64-68.

149. Notably, maximizing the data transfer rate and adapting to changing channel conditions in a peer-to-peer communications system – objectives of both Boer and Kamerman -- would not have provided the solution to the incompatibility problem identified and claimed in the ‘580 Patent, i.e., it would not have provided a “transceiver configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” Claims 2 and 59.

150. Instead, if Snell were modified in the proposed manner (i.e., implementing Kamerman’s automatic rate selection in Snell’s system), Snell’s transceiver would increase the transmission rate during lower load periods (e.g., as indicated by “a number ... of successive correctly acknowledged packet transmissions”) and would decrease the transmission rate during higher load periods (e.g., as indicated by “unacknowledged packet transmissions”). *See* Kamerman at 11.

151. Such modification would not provide the claimed third sequence, as Kamerman’s rationale as to when to change modulation methods has *nothing to do with* making a change in modulation method so that a master can communicate with a particular slave using a different modulation method to address a potential incompatibility issue. For that reason alone, one of ordinary skill would not have been motivated by Kamerman to vary the modulation method

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<sup>15</sup> Kamerman is a named inventor on the Boer et al. patent. *See* the discussion above in ¶¶ 64-68.

when needed to address the ‘580 Patent incompatibility problem as done in the ‘580 Patent, *i.e.*, to provide a “third sequence [that] indicates that communication from the master to the slave has reverted to the first modulation method.”

## **IX. The Combinations And Modifications Proposed By The Office**

### **A. The Office’s Suggestion Regarding Adapting Snell To A Master/Slave System In View Of The Problem Identified and Solved in the ‘580 Patent**

152. In my opinion, all the outstanding rejections share a common, significant deficiency – one that weighs against the Office’s proposed combinations. As previously noted, none of Snell, Yamano, or Kamerman discloses communications in a master/slave setting *at all*, even if Harris AN9614 and Harris 4064.4 had been successfully incorporated by reference into Snell (which I understand that they have not been). *See* the discussion above, at ¶¶ 101-120.

153. Further, even if adapting Snell to a master/slave setting were suggested (which, in my opinion, it is not), it would not have been obvious to combine the art as the Office has proposed in a way that would have yielded the invention claimed in the ‘580 Patent because there was no recognition of the problem identified and solved in the ‘580 Patent – a problem specific to the master/slave setting when a master attempts to communicate with a slave using an incompatible modulation method. *See* the discussion above, at ¶¶ 81-83, 94-97.

154. The named inventors of the systems described in the references were not faced with that problem and thus would have had no reason to invent the ‘580 solution. *Id.* Instead they were faced with different problems that resulted from the fundamentally different ways their systems accessed the shared medium. *See* ¶¶ 94-97 above. As previously noted, those “fundamentally different ways” involved peer-to-peer communications, such as CSMA and CDMA types, instead of those between a master and a slave. *See id.*

155. Summarizing my analyses above, it would not have been obvious to a skilled artisan to adapt Snell to a master/slave system and solve the problem identified and solved in the ‘580 patent because of the fundamental differences between peer-to-peer and master/slave communications.

**B. The Office’s Possible Suggestion That The “Polled Scheme” Disclosure in Harris AN9614 Would Have Suggested The Claimed Master/Slave System In View Of The Polled Scheme’s “Single Rate” Applications**

156. The disclosure in Harris AN9614 at page 3 is not of a communications system using multiple modulation methods, as claimed in the ‘580 Patent. In addition to the limitations described above, Harris AN9614’s “polled scheme” appears in a section of Harris AN9614 dedicated to describing a protocol where burst transmissions are used for achieving a “Low Average Data Rate” by operating the PRISM 1 chip at a single, low data rate of 1 MBPS:

The system approach is to accept the 1 MBPS data rate of the radio as long as the achievable range is acceptable, and use it in a short burst mode which is consistent with its packet nature. With a low power watch crystal, the controller can keep adequate time to operate either in a polled or time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. ... With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

Harris AN9614 at 3.

157. There is nothing in Harris AN9614 suggesting that its 1 MBPS system should or even could be used in combination with the higher data rate schemes described in the body of Snell. Put another way, there is nothing in Harris AN9614 suggesting that its 1 MBPS polled scheme was intended to be used to accomplish, for example, the scheme depicted at col. 6, lines 55-60 of Snell, which the Office has mapped to other elements in the claim.

158. In order for the Office's rejection to stand, I understand that the elements in Snell/Harris must be arranged or combined in the same way as recited in the claim, regardless of whether it is based on expressed or inherent disclosure. The Office has not shown such an arrangement.

159. Rather, in my opinion, Harris AN9614 suggests adapting its "high data rate configuration" to one using 1 MBPS only in order to avoid "the design considerations ... of concern" with high data rate configurations. *See* Harris AN9614 at 3. Significantly, this suggestion is directly contrary to Snell's goal of obtaining higher variable data rates "from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK," Snell at 5:30-32. Thus, one of ordinary skill in the art reading Snell and Harris AN9614 would have understood the discussion in Harris AN9614 of a polled scheme to be inapplicable to the multi-data rate scheme that is the focus of Snell. Accordingly, I opine that, even if Harris AN9614 were a publication, and the "polled scheme" of Harris AN9614 were incorporated by reference into Snell, and the disclosure of a polled scheme in Harris AN9614 would have suggested a "master/slave relationship," the combination of Snell with Harris AN9614 would not have yielded or suggested the communications system claimed in the '580 Patent that requires at least two different types of modulation methods.

160. Summarizing, based on my analyses above, the "polled scheme" disclosure in Harris AN9614 is limited to "single rate" applications and thus does not disclose and would not have suggested more than one modulation method. Thus, the skilled artisan would not have been motivated to combine in a way that would have yielded the claimed invention, and thus the Office's proposed modification/combination would not have been obvious to one of ordinary skill in the art.



**C. The Office’s Combination of Snell and Kamerman Following Adapting Snell to a Master/Slave System And the Lack of Any Teachings Regarding The Proposed IEEE 802.11 Standard**

161. I observe that Snell’s disclosure relates to an extension of the “proposed IEEE 802.11 standard.”<sup>16</sup> While Snell may have been privy to the proposed standard through the involvement of his employer (Harris) on the standard committee, I see no evidence that the proposed standard itself was publicly known at that time. In fact, I understand the PTAB has already found that, as of the priority date of the ‘580 patent, the draft IEEE 802.11 standard was not available to anyone outside the IEEE 802.11 Working Group:

Notably absent ... from the Petition and Mr. O’Hara’s declaration are any assertions or evidence in support of the availability of Draft Standard to individuals other than members of the 802.11 Working Group and those who already knew about Draft Standard or the July 8–12 meeting of the 802.11 Working Group. We do not find sufficient argument or evidence to indicate that the July 8–12 meeting of the 802.11 Working Group (or any other 802.11 Working Group meeting) was advertised or otherwise announced to the public. Nor do we find sufficient argument or evidence that any individual who was not already a member of, or otherwise aware of, the Working Group would have known about Draft Standard such that he or she would have known to request a copy or ask to be added to an email list for access to the document.

*Samsung Electronics Co. LTD. et al. v. Rembrandt Wireless Technologies, LP.*, IPR2014-00514, Paper No. 18 at 7-8 (PTAB September 9, 2014).<sup>17</sup>

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<sup>16</sup> See, e.g., Snell at 1:47-50 (describing “a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard”); Snell at 5:30-32 (describing “an extension of the PRISM 1 product from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK”); and Snell at 4:42-43, 5:30-32 (describing “a wireless transceiver 30” that “may be readily used for WLAN applications in the 2.4 GHz ISM band in accordance with the proposed IEEE 802.11 standard.”).

<sup>17</sup> See also *Samsung Electronics Co. LTD. v. Rembrandt Wireless Technologies, LP.*, IPR2014-00515, Paper No. 18 at 6-10 (PTAB September 9, 2014); *Samsung Electronics Co. LTD v. Rembrandt Wireless Technologies, LP.*, IPR2014-00889, Paper No. 8 at 7-10 (PTAB December

162. In view of the above, it is my opinion that the Office's position that the draft IEEE 802.11 standard was "available at that time" (3-31-17 Office Action, at 19) is incorrect.

163. Without access to the proposed IEEE 802.11 standard, one of ordinary skill reading Snell would have known only that the proposed standard employed a collision avoidance protocol (like CSA), as that is the only protocol disclosed in Snell. Such a conclusion would have been buttressed by Kamerman, which similarly described the proposed standard only in the context of a CSMA/CA (carrier sense multiple access with collision avoidance) protocol.

164. Despite the indications in both Snell and Kamerman tying the proposed IEEE 802.11 standard to a collision avoidance protocol, the Office's position is that Snell would have been converted to a master/slave system (although, again, it is not clear how that would be done) prior to combining Snell and Kamerman. Assuming that were done, there would be no reasonable expectation that the Snell transceiver adapted to a master/slave system would function in accord with the draft IEEE 802.11 standard, particularly when both Snell and Kamerman discussed the proposed standard only in connection with collision avoidance protocols.

165. In other words, it would not have been obvious to combine Snell with Kamerman after adapting Snell to a master/slave system because there is no evidence that Snell would have remained compliant with the draft IEEE 802.11 standard. In my opinion, lack of such evidence would have discouraged the skilled artisan from making the suggested combination, as one of the intended purposes of Snell invention was to maintain compatibility with the proposed IEEE

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10, 2014); *Samsung Electronics Co. LTD v. Rembrandt Wireless Technologies, LP.*, IPR2014-00890, Paper No. 8 at 7-10 (PTAB December 10, 2014); *Samsung Electronics Co. LTD. v. Rembrandt Wireless Technologies, LP.*, IPR2014-00891, Paper No. 8 at 8-12 (PTAB December 10, 2014).

802.11 standard. *See* Snell at 1:47-50 (“PRISM 1 ... is compatible with the proposed IEEE 802.11 standard”), 4:42-46 (a wireless transceiver 30 used “in accordance with the proposed IEEE 802.11 standard”), 5:30-32 (“[t]he present invention provides an extension of the PRISM 1 product”).

166. Without access to any teachings of the proposed IEEE 802.11 standard, one of ordinary skill in the art would not have any reasonable expectation that Snell’s transceiver would still act in accordance with the proposed IEEE 802.11 standard if it were modified to act in a master/slave relationship instead of a peer-to-peer relationship, such as a carrier sense multiple access with collision avoidance (CSMA/CA) relationship.

167. Accordingly, one of ordinary skill in the relevant art would have been discouraged from modifying Snell’s transceiver as suggested by the Office without a reasonable expectation that it would function as intended, *i.e.*, in accordance with the proposed IEEE 802.11 standard. Thus, it would not have been obvious to modify Snell’s transceiver to act in the role of the master according to a master/slave relationship and then combine Snell as modified with Kamerman.

168. Similarly, given that peer-to-peer communication systems, such as that described in Snell, are fundamentally different than master/slave systems (*see* ¶¶ 94-97 above), one of ordinary skill in the art would have been further discouraged from making the proposed modification of Snell as that fundamental difference would have weighed against having any reasonable expectation that Snell, as modified, would still act in accordance with the proposed IEEE 802.11 standard or would have provided predictable results. *See, e.g.*, MPEP § 2143.01(III) (citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)) (“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art.”).

169. Summarizing, based on my reasoning above, one of ordinary skill would not have been motivated to adapt Snell to a master/slave system and *then* combine with Kamerman lacking any teachings regarding the proposed IEEE 802.11 standard. Thus, in my opinion, such a combination following the suggested modification would not have been obvious to the skilled artisan.

**D. The Office’s Combination of Snell and Yamano Following Adapting Snell To A Master/Slave System to Satisfy The “Addressed For An Intended Destination” Limitation**

170. Claim 2 of the ‘580 patent requires a transceiver that is capable of sending a transmission comprising “a group of transmission sequences” that “is structured with at least a first portion and a payload portion” and “is addressed for an intended destination of the payload portion.” Claim 59 requires a transceiver that is capable transmitting “at least one message” with first and second sequences and that “is addressed for an intended destination of the second sequence.” Neither of these limitations is disclosed by or would have been obvious in view of the cited art.

171. I observe that Snell is silent regarding a destination address. *See Snell passim*, 3-31-17 Office Action, at 14 (“Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion.”), 16 (“Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence.”).

172. The Office relies on Yamano as disclosing the missing destination address and asserts that “[a] person of ordinary skill in the art would have been motivated and found it obvious to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teaching of a communication system.” 3-31-17 Office Action, at 14, 16-17. The cited portions indicate that Yamano’s destination address is in the preamble. Yamano at 20:1-7 (disclosing a packet 700 having a preamble 701 that “can include information which identifies ...

packet source and destination addresses”); 20-54-59 (disclosing that, “[w]hen the preamble in a burst-mode packet includes the destination address of the packet, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.”); and Fig. 8. Based on my review of Snell and Yamano, I disagree with the Office’s assertion.

173. In my opinion, the goal of Snell is to increase the data rate at which information is communicated. *See, e.g.*, Snell at 2:24-25 (“permitting operation at higher data rates than conventional transceivers”), 2:28-29 (“permit operation at higher data rates”); 5:30-34 (“The present invention provides an extension of the PRISM 1 product from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK” and “allows the same RF circuits to be used for higher data rates.”), 7:10-14 (“increase the data rate”).

174. However, Snell discloses that the preamble is always transmitted at the lowest (i.e., 1 Mbit/s) data rate. *Snell* at 6:64-66. Therefore, adding a destination address to the preamble of Snell would increase the amount of information transmitted at the lowest data rate, frustrating Snell’s goal of increasing the data rate.

175. For at least this reason, it would not have been obvious to one of ordinary skill in the relevant art to combine Yamano’s teaching of a destination address in a preamble with Snell.

176. In addition, given that the proposed IEEE 802.11 standard was not publicly available, one of ordinary skill would have been concerned that Snell’s system would not remain compliant with the proposed IEEE standard if Snell was modified to include address information in the header. Again, that would have discouraged the skilled artisan from making the suggested combination, as one of the intended purposes of Snell invention was to maintain compatibility with the proposed IEEE 802.11 standard.

177. Without access to the teachings of the proposed IEEE 802.11 standard, one of ordinary skill in the art would not have any reasonable expectation that Snell's transceiver would still act in accordance with the proposed IEEE 802.11 standard if it were modified to include address information in the header.

178. For this additional reason, one of ordinary skill in the relevant art would have been discouraged from modifying Snell's transceiver to include Yamano's address information in the header (as suggested by the Office) without a reasonable expectation that it would function as intended, *i.e.*, in accordance with the proposed IEEE 802.11 standard.

**X. CONCLUSION**

179. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the '580 Patent.

Date: 6/29/2017

Robert Akl.  
Dr. Robert Akl

Exhibit A  
to Akl  
Declaration

# Robert Akl, D.Sc.

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## Professional Summary

Dr. Akl has over 20 years of industry and academic experience. He is currently a Tenured Associate Professor at the University of North Texas and a Senior Member of IEEE. He has designed, implemented, and optimized both hardware and software aspects of several wireless communication systems for CDMA, WiFi, and sensor networks. Dr. Akl has broad expertise in wireless communication, Bluetooth, CDMA/WCDMA network optimization, GSM, LTE, VoIP, telephony, computer architecture, and computer networks. He is a very active researcher and is well published and cited. He has been awarded many research grants by leading companies in the industry and the National Science Foundation. He has developed and taught over 100 courses in his field. Dr. Akl has received several awards and commendation for his work, including the 2008 IEEE Professionalism Award and was the winner of the 2010 Tech Titan of the Future Award.

Dr. Akl has extensive experience with patents in the wireless and networking industry. In the past ten years, he has worked as a technical expert in dozens of patent related matters, involving thousands of hours of research, investigation, and study. He has repeatedly been qualified as an expert by Courts, and has provided numerous technology tutorials to Courts, and given testimony by deposition and at trial. He has worked with companies large and small, both for and against the validity and infringement of patents, and has also helped counsel and Courts to understand technology that often seems complex. In doing so, he has become familiar with, and actively worked with, the legal principles that underlie patentability and validity and claim interpretation in the wireless and networking industries.

## Areas of Expertise

2G, 3G, 4G, CDMA/WCDMA, GSM, UMTS, LTE, Ad-hoc Networks, Bluetooth, Call Admission Control, Channel Coding, Compression, Computer Architecture, Multi-cell Network Optimization, Packet-networks, Telephony, VoIP, Wi-Fi, Wireless Communication, Wireless Sensors.

## Education

<u>Year</u>	<u>College/University</u>	<u>Degree</u>	<u>GPA</u>
2000	Washington University in Saint Louis	D.Sc. in Electrical Engineering	4.0 / 4.0
1996	Washington University in Saint Louis	M.S. in Electrical Engineering	4.0 / 4.0
1994	Washington University in Saint Louis	B.S. in Electrical Engineering	4.0 / 4.0
1994	Washington University in Saint Louis	B.S. in Computer Science	4.0 / 4.0

Graduated *summa cum laude* and ranked first in undergraduate class.

Dissertation: "Cell Design to Maximize Capacity in Cellular Code Division Multiple Access (CDMA) Networks." Advisors: Dr. Manju Hegde and Dr. Paul Min.



## Litigation Support and Expert Witness Experience

- L1. 2017 **Finnegan Henderson Farabow Garrett & Dunner LLP**  
Case: Motorola Solutions, Inc. v. Hytera Communications Corp. Ltd. et al.  
In the Matter of Certain Two-way Radio Equipment Systems, Related Software and Components Thereof, ITC Investigation No. 337-TA-1053  
Matter: Patent infringement, two-way radio  
Project: Consulting
- L2. 2017 **Haynes and Boone, LLP**  
Case: Rackspace US, Inc. v. Realtime Data LLC  
IPR2017-xxxx  
Matter: *Inter Partes* Review, data compression  
Project: Declarations to support IPR petition
- L3. 2017 **Pillsbury Winthrop Shaw Pittman LLP**  
Case: HTC Corp and ZTE (USA) v. Cellular Communications Equipment  
IPR2017-01508, IPR2017-01509  
Matter: *Inter Partes* Review, LTE, power control, emergency notification  
Project: Two declarations to support two IPR petitions
- L4. 2017 **Alston & Bird LLP**  
Case: Itron, Inc. and Duke Energy Corp. v. Smart Meter Technologies  
IPR2017-01199  
Matter: *Inter Partes* Review, power meter  
Project: Declaration to support IPR petition
- L5. 2017 **Haynes and Boone, LLP**  
Case: Ericsson Inc. v. Regents of the University of Minnesota  
IPR2017-01186, IPR2017-01200, IPR2017-01213  
Matter: *Inter Partes* Review, OFDM and MIMO  
Project: Three declarations to support three IPR petitions
- L6. 2017 **Quinn Emanuel Urquhart & Sullivan, LLP**  
Case: GENBAND US, LLC v. Metaswitch Networks Ltd. et al.  
Eastern district of Texas, Marshal division, Case No. 2:16-cv-582-JRG-RSP  
Matter: Patent infringement, Internet protocols and VoIP  
Project: Expert report regarding essentiality
- L7. 2017 **Mayer Brown LLP**  
Case: Uniloc USA, Inc. et al. v. Avaya Inc., and ShoreTel, Inc., et al.  
Eastern district of Texas, Tyler division, Case Nos. 6:15-cv-1168-JRG  
Matter: Patent infringement, instant messaging and conference calling

- Project: Source code review, non-infringement consulting
- L8. 2017 **Fish & Richardson P.C.**  
Case: Nokia Solutions and Networks US LLC, et al. v. Huawei Technologies Co. Ltd., et al.  
Eastern district of Texas, Marshal division, Case Nos. 2:16-cv-753-JRG-RSP, 2:16-cv-754  
Matter: Patent infringement, 4G LTE  
Project: Claim construction, two declarations
- L9. 2017 **Rothwell Figg Ernst & Manbeck, PC**  
Case: Samsung v. Rembrandt Wireless  
Matter: *Ex Parte* Reexamination, Bluetooth  
Project: Declaration to support patent owner response
- L10. 2016 **Sidley Austin LLP**  
Case: Huawei Technologies Co., et al. v. Samsung Electronics Co, et al. and Samsung Research America v. Hisilicon Technologies Co, LTD  
Northern district of California, San Francisco division, Case No. 3:16-cv-2787-WHO  
Matter: Patent infringement, 3G/4G LTE  
Project: Source code review, declaration to support claim construction
- L11. 2016 **Bragalone Conroy PC**  
Case: Securus Technologies, Inc. v. Global Tel\*Link Corporation  
CBM2017-00034  
Matter: Covered Business Method Review, call monitoring and recording  
Project: Declaration to support CBM petition
- L12. 2016 **Braxton, Hilton & Perrone PLLC**  
Case: Biosonix, LLC. v. Hydrowave, LLC et al.  
Eastern district of Texas, Case No. 2:16-cv-139-RC  
Matter: Patent infringement, underwater transceivers  
Project: Claim construction, Markman hearing testimony
- L13. 2016 **Gray Reed & McGraw**  
Case: Optis Cellular Technology, LLC and PanOptis Patent Management, LLC. v. Blackberry Corporation, et al.  
Eastern district of Texas, Marshal division, Case No. 2:16-cv-59-JRG-RSP, Case No. 2:16-cv-61-JRG-RSP, Case No. 2:16-cv-62-JRG-RSP  
Matter: Patent infringement, LTE  
Project: Claim construction, three declarations regarding claim construction, deposition

- L14. 2016           **Davidson Berquist Jackson & Gowdey**  
Case:               SIPCO, LLC et al v. Emerson Electric Co. et al  
Eastern district of Texas, Tyler division, Case No. 6:15-cv-907  
Emerson Electric Co. et al v. SIPCO, LLC et al.  
Northern district of Georgia, Atlanta division, Case No. 1:15-cv-00319-AT  
Matter:           Patent infringement, links in wireless networks and remote monitoring  
Project:           Source code review, invalidity consulting
- L15. 2016           **McKool Smith**  
Case:               Regents of University of Minnesota v. AT&T Mobility LLC, et al.  
District of Minnesota, Case No. 0:14-cv-04666-JRT-TNL  
Matter:           Patent infringement, LTE and MIMO  
Project:           Non-infringement and invalidity consulting, declaration
- L16. 2016           **EIP US LLP**  
Case:               GENBAND US, LLC et al. v. Metaswitch Networks Ltd  
IPR2015-01456, IPR2015-01457  
Matter:           *Inter Partes* Review, media gateways  
Project:           Two declarations to support Patent Owner, two depositions
- L17. 2016           **Haynes and Boone, LLP**  
Case:               Cox Communications, Inc. v. AT&T Intellectual Property I, II, LP  
IPR2015-01187, IPR2015-01227, IPR2015-01273, IPR2015-01536  
Matter:           *Inter Partes* Review, cable networks  
Project:           Four declarations to support Patent Owner, four depositions
- L18. 2016           **Mayer Brown LLP**  
Case:               Odyssey Wireless v. Motorola Mobility LLC  
Eastern district of North Carolina, Western division, Case No. 5:14-cv-491-D  
Southern district of California, Case No. 3:15-cv-01741-H-RBB  
Matter:           Patent infringement, LTE  
Project:           Source code review, non-infringement consulting
- L19. 2016           **Cooley LLP**  
Case:               Saint Lawrence Comm. LLC v. Motorola Mobility LLC, ZTE (USA) Inc.  
Eastern district of Texas, Marshal division, Case No. 2:15-cv-000351-JRG, Case No. 2:15-cv-000349-JRG  
Matter:           Patent infringement, speech compression, coding and decoding  
Project:           Invalidity expert report, expert report regarding AMR-WB standard, expert report regarding Opus and Silk, supplemental expert report regarding invalidity, two-day depositions, jury trial testimony for Motorola

- L20. 2015           **Sidley Austin LLP**  
Case:           Evolved Wireless, LLC v. Microsoft Corp., et al.  
District of Delaware, Case No. 15-cv-546  
Matter:       Patent infringement, LTE  
Project:       Prior art and invalidity consulting
- L21. 2015           **McKool Smith**  
Case:           Optis Wireless Technology, LLC and PanOptis Patent Management, LLC. v. ZTE Corporation and ZTE (USA) Inc.  
Eastern district of Texas, Marshal division, Case No. 2:15-cv-300-JRG-RSP  
Matter:       Patent infringement, cellular messages and multimedia attachments  
Project:       Source code review, claim construction, declaration
- L22. 2015           **Fish & Richardson, P.C.**  
Case:           Saint Lawrence Comm. LLC v. LG Elec., Inc. et al.  
Eastern district of Texas, Marshal division, Case No. 2:14-cv-1055-JRG  
Matter:       Patent infringement, speech compression, coding and decoding  
Project:       Invalidity expert report
- L23. 2015           **Finnegan Henderson Farabow Garrett & Dunner LLP**  
Case:           LG Electronics, Inc. v. Cellular Communications Equipment LLC  
IPR2016-00178  
Matter:       *Inter Partes* Review, LTE  
Project:       Declaration to support IPR petition
- L24. 2015           **McKool Smith**  
Case:           AT&T, et al. v. Cox Communication, Inc., et al.  
District of Delaware, Case No. 14-1106-GMS  
Matter:       Patent infringement, cable networks  
Project:       Claim construction, declaration
- L25. 2015           **McKool Smith**  
Case:           Ericsson Inc., et al. v. TCL Communication, et al.  
Eastern district of Texas, Marshal division, Case No. 2:15-cv-00011-RSP  
Matter:       Patent infringement, wireless devices and systems  
Project:       Source code review, claim construction, declaration, infringement expert report, validity expert report, two-day depositions
- L26. 2015           **Foley & Lardner LLP**  
Case:           Kyocera Communications, Inc. v. Cellular Communications Equipment LLC  
IPR2015-01559, IPR2015-01564  
Matter:       *Inter Partes* Review, LTE

- Project: Two declarations to support two IPR petitions
- L27. 2015 **Fish & Richardson, P.C.**  
Case: Fairfield Industries Inc. v. Wireless Seismic, Inc.  
Southern district of Texas, Case No. 4:14-cv-02972-KPE  
Matter: Patent infringement, wireless sensor networks  
Project: Non-infringement expert report
- L28. 2015 **Quinn Emanuel Urquhart & Sullivan, LLP**  
Case: GENBAND US, LLC v. Metaswitch Networks Ltd, et al.  
Eastern district of Texas, Marshal division, Case No. 2:14-cv-33-JRG-RSP  
Matter: Patent infringement, Internet protocols and VoIP  
Project: Expert report regarding essentiality, non-infringement expert report, rebuttal expert report regarding non-practice, supplemental rebuttal expert report, three-day depositions, jury trial testimony
- L29. 2015 **Foley & Lardner LLP; Duane Morris LLP**  
Case: Mobile Telecommunications Technologies, LLC v. Leap Wireless International, Cricket Communications, Inc.  
Eastern district of Texas, Marshal division, Case No. 2:13-cv-00885-RSP  
Matter: Patent infringement, OFDM and MIMO  
Project: Non-infringement expert report, deposition
- L30. 2015 **Hogan Lovells US LLP; Kenyon & Kenyon LLP**  
Case: One-E-Way v. Beats Electronics, LLC, Sony Corporation, et al.  
In the Matter of Certain Wireless Headsets, ITC Investigation No. 337-TA-943  
Matter: Patent infringement, wireless communication  
Project: Claim construction, declaration
- L31. 2015 **McKool Smith**  
Case: Solocron Media, LLC v. AT&T Inc., et al.  
Eastern district of Texas, Marshal division, Case No. 2:13-cv-1059-JRG  
Matter: Patent infringement, ringtone download  
Project: Claim construction, claim invalidity expert report
- L32. 2015 **EIP US LLP**  
Case: Good Technology Software, Inc. v. Mobile Iron, Inc.  
IPR2015-00833, IPR2015-00836, IPR2015-01090  
Matter: *Inter Partes* Review, software management in wireless devices  
Project: Three declarations to support three IPR petitions

- L33. 2015      **McKool Smith**  
Case:          AirWatch LLC v. Good Technology Corp  
Northern district of Georgia, Case No. 1:14-cv-02281-SCJ  
Matter:        Patent infringement, software management in wireless devices  
Project:        Claim construction, declaration
- L34. 2015      **Simpson Thacher & Bartlett LLP**  
Case:          IXI Mobile (R&D) Ltd. et al. v. Apple Inc.  
Southern district of New York, Case No. 14-cv-7594-RJS  
Matter:        Patent infringement, PDA and Bluetooth  
Project:        Invalidity consulting
- L35. 2014      **Bragalone Conroy PC**  
Case:          Global Tel\*Link Corporation v. Securus Technologies, Inc.  
IPR2014-00785, IPR2014-00810, IPR2014-00824, IPR2014-00825,  
IPR2014-01278, IPR2014-01282, IPR2014-01283  
Matter:        *Inter Partes* Review, VoIP call monitoring and recording, allocating  
telecommunication resources and information systems  
Project:        Seven declarations to support seven Patent Owner's responses, five  
depositions
- L36. 2014      **Orrick, Herrington & Sutcliffe LLP**  
Case:          Shopkick, Inc. v. Novitaz, Inc.  
IPR2015-00277, IPR2015-00278  
Matter:        *Inter Partes* Review, wireless customer service management  
Project:        Two declarations to support two IPR petitions
- L37. 2014      **Paul Hastings LLP**  
Case:          Cellular Communications Equipment LLC v. AT&T, et al.  
Eastern district of Texas, Tyler division, Case No. 6:13-cv-507-LED  
(Lead Case for Consolidation)  
Matter:        Patent infringement, 3G cellular communication  
Project:        Claim construction, declaration
- L38. 2014      **Baker Botts LLP**  
Case:          Orlando Communications LLC v. AT&T, et al.  
M.D. Florida, Case No. 6:14-cv-01021  
Matter:        Patent infringement, 3G/4G cellular communication  
Project:        Non-infringement and claim construction consulting
- L39. 2014      **EIP US LLP**  
Case:          Good Technology Software, Inc. v. AirWatch, LLC  
IPR2015-00248, IPR2015-00875  
Matter:        *Inter Partes* Review, software management in wireless devices  
Project:        Two declarations to support two IPR petitions

- L40. 2014      **Bragalone Conroy PC**  
Case:      Securus Technologies, Inc. v. Global Tel\*Link Corporation  
IPR2015-00153, IPR2015-00155, IPR2015-00156  
Matter:      *Inter Partes* Review, VoIP call monitoring and recording  
Project:      Three declarations to support three IPR petitions, two depositions
- L41. 2014      **Andrews Kurth LLP**  
Case:      Sony Mobile Communications (USA) v. Adaptix Inc.  
IPR2014-01524, IPR2014-01525  
Matter:      *Inter Partes* Review, subcarrier selection in LTE  
Project:      Two declarations to support two IPR petitions, deposition
- L42. 2014      **Step toe & Johnson LLP, Baker & McKenzie LLP**  
Case:      VTech Communications, Inc. and Uniden America Corporations v.  
Spherix Incorporated  
IPR2014-01432  
Matter:      *Inter Partes* Review, IP telephony  
Project:      Declaration to support IPR petition, deposition, reply declaration,  
deposition
- L43. 2014      **Step toe & Johnson LLP, Baker & McKenzie LLP**  
Case:      Spherix Inc. v. VTech Telecommunications Ltd., et al.  
Spherix Inc. v. Uniden Corp., et al.  
Northern district of Texas, Dallas Division, Case No. 3:13-cv-3494  
and 3:13-cv-3496  
Matter:      Patent infringement, IP telephony  
Project:      Claim construction, declaration, deposition
- L44. 2014      **McKool Smith**  
Case:      Good Technology Corp. v. MobileIron, Inc.  
Northern district of California, Case No. 5:12-cv-05826-PSG  
Matter:      Patent infringement, software management in wireless devices  
Project:      Claim construction, three declarations, claim invalidity expert report,  
non-infringement expert report, deposition, jury trial testimony
- L45. 2014      **Lee & Hayes**  
Case:      Broadcom Corp. v. Ericsson, Inc.  
IPR2013-00601, IPR2013-00602, and IPR2013-00636  
Matter:      *Inter Partes* Review, ARQ protocols  
Project:      Three declarations to support Patent Owner's Response, two  
declarations to support Patent Owner's Motion to Amend, deposition,  
two reply declarations
- L46. 2014      **Sidley Austin LLP**  
Case:      Adaptix, Inc. v. Huawei Technologies Co., et al.  
Eastern district of Texas, Case No. 6:13-cv-00438, 439, 440 and 441

- Matter: Patent infringement, subcarrier selection in LTE  
Project: Non-infringement consulting, source code review
- L47. 2014 **Finnegan Henderson Farabow Garrett & Dunner LLP**  
Case: Cell and Network Selection LLC v. Huawei Technologies Co., et al.  
Eastern district of Texas, Case No. 6:13-cv-00404-LED-JDL  
Matter: Patent infringement, base station selection in LTE  
Project: Non-infringement consulting
- L48. 2014 **Feinberg Day Alberti & Thompson LLP**  
Case: DSS Technology Management, Inc. v. Apple Inc.  
Eastern district of Texas, Tyler division, Case No. 6:13-cv-00919-JDL  
Matter: Patent infringement, PDA and Bluetooth  
Project: Claim construction and invalidity consulting
- L49. 2014 **Sheppard Mullin Richter & Hampton LLP**  
Case: Digcom Inc. v. ZTE (USA), Inc.  
District of Nevada, Case No. 3:13-cv-00178-RCJ-WGC  
Matter: Patent infringement, cellular communication  
Project: Claim construction consulting
- L50. 2014 **Lott & Fischer**  
Case: Zenith Electronics, LLC, et al. v. Craig Electronics, Inc.  
Southern district of Florida, Case No. 9:13-cv-80567-DMM/DLB  
Matter: Patent infringement, HDTV transmission and reception  
Project: Opening expert report regarding nonessentiality
- L51. 2013 **McKool Smith**  
Case: Zenith Electronics, LLC, et al. v. Curtis International Ltd.  
Southern district of Florida, Case No. 9:13-cv-80568-DMM/DLB  
Matter: Patent infringement, HDTV transmission and reception  
Project: Claim construction, declaration, deposition
- L52. 2013 **Gibson Dunn**  
Case: Straight Path IP Group v. Sharp Corp. and Sharp Electronics Corp.  
In the Matter of Certain Point-to-Point Network Communication  
Devices and Products Containing Same, ITC Investigation No. 337-  
TA-892  
Matter: Patent infringement, point-to-point network communication  
Project: Non-infringement consulting
- L53. 2013 **Kilpatrick Townsend & Stockton LLP**  
Case: Monec Holding AG v. Motorola Mobility LLC, et al.  
District of Delaware, Case No. 1:11-cv-798-LPS-SRF  
Matter: Patent infringement, displaying books on tablets  
Project: Non-infringement expert report for Motorola, non-infringement expert



report for HTC, deposition

- L54. 2013      **Gartman Law Group**  
Case:      Lone Star WiFi LLC v. Legacy Stonebriar Hotel, Ltd, et al.  
Eastern Dist. Of Texas, Tyler, Case No. 6:12-cv-957  
Matter:      Patent infringement, levels of access in Wi-Fi networks  
Project:      Claim validity consulting
- L55. 2013      **White & Case, LLP**  
Case:      Nokia Corp and Nokia, Inc. v. HTC Corp and HTC America, Inc.  
In the Matter of Certain Portable Electronic Communication Devices,  
Including Mobile Phones and Components Thereof, ITC Investigation  
No. 337-TA-885  
Matter:      Patent infringement, App download and installation  
Project:      Non-infringement consulting
- L56. 2013      **Heim, Payne & Chorush, LLP**  
Case:      Rembrandt Wireless v. Samsung Electronics Co., et al.  
Eastern Dist. of Texas, Marshal, Case No. 2:13-cv-213-JRG-RSP  
Matter:      Patent infringement, Bluetooth  
Project:      Expert report regarding validity, deposition, jury trial
- L57. 2013      **Davis Polk & Wardwell LLP; Baker Hostetler**  
Case:      Comcast v. Sprint; and Nextel Inc.  
Eastern Dist. of Pennsylvania, Case No. 2:12-cv-00859-JD  
Matter:      Patent infringement, SMS/MMS in Cellular Networks  
Project:      Infringement expert report, validity expert report, reply expert report,  
declaration, two-day depositions, jury trial testimony
- L58. 2013      **McKool Smith**  
Case:      Samsung Electronics America v. Eriesson Inc.  
In the Matter of Certain Wireless Communications Equipment and  
Articles Therein, ITC Investigation No. 337-TA-866  
Matter:      Patent infringement, LTE uplink and downlink  
Project:      Prior art research, source code review, claim construction, claim  
invalidity expert report, non-infringement expert report, ITC hearing  
testimony
- L59. 2012      **DLA Piper US LLP**  
Case:      CSR Technology Inc. v. Freescale Semiconductor, Inc.  
USDC-San Francisco, Case No. 3:12-cv-02619-RS  
Matter:      Patent infringement, radio transceivers  
Project:      Claim construction, declaration
- L60. 2012      **Fish & Richardson PC**  
Case:      GPNE Corp. v. Apple, Inc.; et al.

- USDC-ND California, Case No. 5:12-cv-02885-LHK  
Matter: Patent infringement, resource allocation in wireless networks  
Project: Prior art research consulting
- L61. 2012      **Polsinelli Shughart PC**  
Case:      Single Touch Interactive, Inc. v. Zoove Corporation  
Northern district of California, Case No. 3:12-cv-00831-JSC  
Matter: Patent infringement, abbreviated dialing, information delivery  
Project: Claim construction, Markman hearing testimony, two declarations
- L62. 2012      **K & L Gates**  
Case:      EON Corp. IP Holdings, LLC v. Novatel Wireless, Inc.; et al.  
DC-Tyler, Texas, Case No. 6:11-cv-00015-LED-JDL  
Matter: Patent infringement, wireless modem and 3G services  
Project: Non-infringement expert report, deposition
- L63. 2012      **Simpson Thacher & Bartlett LLP**  
Case:      CSR Technology, Inc. v. Bandspeed, Inc.  
Western Dist. of Texas, Case No. 1:12-cv-297-LY  
Matter: Patent infringement, packet identification in 2.4 GHz and 5 GHz  
Project: Source code review, Markman hearing testimony, infringement expert report
- L64. 2012      **Sheppard Mullin Richter & Hampton LLP**  
Case:      Wi-LAN v. HTC America, Inc., et al.  
Eastern Dist. of Texas, Case No. 6:10-cv-521-LED  
Matter: Patent infringement, CDMA, Orthogonal Codes  
Project: Source code review, non-infringement expert report, deposition, jury trial testimony
- L65. 2012      **Dechert LLP**  
Case:      Hitachi v. TPV and Vizio, Inc.; and Vizio v. Hitachi, LTD.  
Eastern Dist. of Texas, Case No. 2:10-cv-260  
Matter: Patent infringement, HD television transmission and reception  
Project: Prior art research, claim invalidity consulting
- L66. 2012      **Fish & Richardson PC**  
Case:      InterDigital Commc'n, LLC v. Huawei Tech. Co. LTD; LG Electronics, Inc.; Nokia, Inc.; and ZTE (USA) Inc.  
Certain Wireless Devices With 3G Capabilities and Components Thereof, ITC Investigation No. 337-TA-800  
Matter: Patent infringement, channel coding in UMTS, HSDPA  
Project: Non-infringement consulting

- L67. 2012      **Fish & Richardson PC**  
Case:          InterDigital Commc'n, LLC v. Huawei Tech. Co. LTD; LG Electronics, Inc.; Nokia, Inc.; and ZTE (USA) Inc.  
                    Dist. of Delaware, Case No. 1:11-cv-00654-UNA  
Matter:        Patent infringement, channel coding in UMTS, HSDPA  
Project:        Non-infringement consulting
- L68. 2011      **O'Melveny & Myers LLP**  
Case:          MobileMedia Ideas, LLC v. Apple, Inc.  
                    Dist. of Delaware, Case No. 1:10-cv-00258-SLR-MPT  
Matter:        Patent infringement, voice control, call rejection in mobile phones  
Project:        Source code review, prior art research, declaration, claim invalidity expert report, non-infringement expert report, deposition, jury trial testimony
- L69. 2011      **Wilmer Cutler Pickering Hale and Dorr**  
Case:          Apple, Inc. v. Samsung Electronics Co.  
                    Northern Dist. of California, Case No. 5:11-cv-01846-LHK  
Matter:        Patent infringement, channel coding in CDMA, E-AGCH, TFCI  
Project:        Prior art research, claim construction consulting
- L70. 2011      **Weil, Gotshal & Manges LLP**  
Case:          Vizio, Inc. v. Renesas Electronics America, Inc.  
                    ITC Investigation No. 337-TA-789  
Matter:        Patent infringement, HD television transmission and reception  
Project:        Claim invalidity consulting
- L71. 2011      **Shapiro Cohen**  
Case:          TenXc Wireless Inc. v. Andrew LLC  
                    TenXc Wireless Inc. v. Mobi Antenna Technologies Ltd.  
Matter:        Patent infringement, antenna design, sectorized cellular network  
Project:        Claim validity consulting
- L72. 2010      **Fish & Richardson PC**  
Case:          Vizio, Inc., v. LG Electronics, Inc.  
                    ITC Investigation No. 337-TA-733  
Matter:        Patent infringement, HD television transmission and reception  
Project:        Claim charts, claim construction expert report, deposition
- L73. 2010      **Fish & Richardson PC**  
Case:          Vizio, Inc., v. LG Electronics, Inc.  
                    Dist. of Maryland, Case No. 1:09-cv-1481-BEL  
Matter:        Patent infringement, HD television transmission and reception  
Project:        Claim charts, claim construction expert report, deposition

- L74. 2008      **Kaye Scholer LLP**  
Case:          eBay Inc. v. IDT.  
                  Western Dist. of Arkansas, Case No. 4:08-cv-4015-HFB  
Matter:        Patent infringement, long distance communication using Internet  
Project:        Prior art research, claim construction consulting
- L75. 2008      **Simpson Thacher & Bartlett LLP**  
Case:          Commil USA, LLC v. Cisco Systems, Inc.  
                  Eastern Dist. of Texas, Case No. 2:07-cv-00341-DF-CE  
Matter:        Patent infringement, two-level wireless protocol  
Project:        Prior art research
- L76. 2006      **Woodfill and Pressler**  
Case:          Charles Russell v. Interinsurance Exchange of the Auto Club  
                  Harris County, Texas, Case No. 2005-19706  
Matter:        House fire and insurance claim  
Project:        Determining user location using cellular phone records, expert report,  
                  deposition, jury trial testimony

### Consulting History

- From:    1/2013      **Heim, Payne & Chorush, LLP**  
To:        3/2013      Houston, TX  
Duties:    Analyze patents on wireless technologies.
- From:    4/2007      **Collin County Sheriff's Office**  
To:        5/2007      McKinney, TX  
Duties:    Analyzed cellular record data and determined user location in a  
              double-homicide investigation.
- From:    4/2004      **Allegiant Integrated Solutions**  
To:        5/2004      Fort Worth, TX  
Duties:    Designed and developed an integrated set of tools for fast deployment  
              of wireless networks. The tools optimize the placement of Access  
              Points and determine their respective channel allocations to minimize  
              interference and maximize capacity.
- From:    3/2002      **Input/Output Incorporated**  
To:        4/2002      New Orleans, LA  
Duties:    Designed and implemented an algorithm in MATLAB for optimizing  
              the frequency selection process used by sonar for scanning the bottom  
              of the ocean.
- From:    6/1998      **Teleware Corporation**  
To:        7/1998      Seoul, South Korea  
Duties:    Designed and developed a software package for analyzing the capacity

in a CDMA network to maximize the number of subscribers.

## **Employment History**

From: 1/2015 **University of North Texas**  
To: Present Denton, TX  
Position: *Associate Chair of Graduate Studies Department of Computer Science and Engineering*  
In charge of all administrative duties related to the Masters and PhD programs in the department.

From: 5/2008 **University of North Texas**  
To: Present Denton, TX  
Position: *Tenured Associate Professor Department of Computer Science and Engineering*  
Conducting research on cellular networks and wireless sensor networks. Teaching wireless communication courses. Advising graduate and undergraduate students.

From: 9/2002 **University of North Texas**  
To: 5/2008 Denton, TX  
Position: *Assistant Professor Department of Computer Science and Engineering*  
Conducting research on WCDMA/UMTS wireless networks. Teaching wireless communication and computer architecture courses. Advising graduate and undergraduate students.

From: 1/2002 **University of New Orleans**  
To: 8/2002 New Orleans, LA  
Position: *Assistant Professor Department of Electrical Engineering*  
Designed and taught two new courses "Computer Systems Design I and II". Developed a Computer Engineering Curriculum with strong hardware-design emphasis. Formed a wireless research group. Advised graduate and undergraduate students.

From: 10/2000 **Comspace Corporation**  
To: 12/2001 Coppell, TX  
Position: *Senior Systems Engineer*  
Designed, coded (in Matlab), and simulated Viterbi decoding, Turbo coding, trellis coded modulation (TCM), and Reed-Muller codes. Optimized soft decision parameters and interleavers for additive white Gaussian and Rayleigh faded channels. Extended the control and trunking of push-to-talk Logic Trunked Radio (LTR) to include one-to-one and one-to-many voice and data messaging.

From: 8/1996 **MinMax Corporation**  
To: 8/2000 Saint Louis, MO

Position: *Research Associate*

Designed software packages that provide the tools to flexibly allocate capacity in a CDMA network and maximize the number of subscribers. Analyzed and simulated different audio compression schemes. Validated, simulated (logical and timing), and developed the hardware architecture for an ATM switch capable of channel group switching.

From: 8/1994 **Washington University**

To: 8/2000 Saint Louis, MO

Position: *Research and Teaching Assistant*

Taught, consulted, and graded Circuit Analysis at the undergraduate level and Network Design at the graduate level.

## **Publications**

### **Conference Proceedings**

- C1. U. Sawant, **R. Akl**, "Evaluation of Adaptive and Non Adaptive LTE Fractional Frequency Reuse Mechanisms," *IEEE WOCC 2017 The 26th Annual Wireless and Optical Communications Conference*, April 2017, paper no. 1570341174, 6 pgs.
- C2. U. Sawant, **R. Akl**, "A Novel Metric to Study the Performance of Sectorized Fractional Frequency Reuse Techniques in LTE," *IEEE WTS 2017 The 16th Annual Wireless Telecommunications Symposium*, April 2017, paper no. 1570338498, 7 pgs
- C3. S. Alotaibi, **R. Akl**, "Dynamic Frequency Partitioning Scheme for LTE HetNet Networks Using Fractional Frequency Reuse," *IEEE WCNC '17 Wireless Communications and Networking Conference*, March 2017, paper no. 1570332420, 5 pgs.
- C4. U. Sawant, **R. Akl**, "Performance Evaluation of Network Productivity for LTE Heterogenous Networks with Reward-Penalty Weights Assessment," *IEEE CCWC 2017 The 7<sup>th</sup> Annual Computing and Communication Workshop Conference*, January 2017, paper no. 1570328396, 6 pgs.
- C5. S. Alotaibi, **R. Akl**, "Self-Adjustment Downlink Transmission Power for Femtocells in Co-Channel Deployment in Heterogeneous Networks," *IEEE CCWC 2017 The 7<sup>th</sup> Annual Computing and Communication Workshop Conference*, January 2017, paper no. 1570326815, 6 pgs.
- C6. U. Sawant, **R. Akl**, "Performance Evaluation of Sectorized Fractional Frequency Reuse Techniques Using Novel Metric," *IEEE ISCC 2016 The Twenty-First IEEE Symposium on Computers and Communications*, June 2016, paper no. 1570275270, 7 pgs.

- C7. R. Tidwell, S. Akumalla, S. Karlaputi, **R. Akl**, K. Kavi, and D. Struble, "Evaluating the Feasibility of EMG and Bend Sensors for Classifying Hand Gestures," *1<sup>st</sup> International Conference on Multimedia and Human Computer Interaction*, July 2013, paper no. 63, 8 pgs.
- C8. **R. Akl**, K. Pasupathy, and M. Haidar, "Anchor Nodes Placement for Effective Passive Localization," *2011 IEEE International Conference on Selected Topics in Mobile and Wireless Networks (iCOST)*, October 2011, paper no. 1569490799, pp. 127 - 132.
- C9. **R. Akl**, P. Kadiyala, and M. Haidar, "Non-Uniform Grid-Based Routing in Sensor Networks", *9th IEEE Malaysia International Conference on Communications*, December 2009, paper no. 1569243649, pp. 536 - 540.
- C10. M. Haidar, M. Al-Rizzo, Y. Chan, **R. Akl**, M. Bouharras, "Throughput Validation of an Advanced Channel Assignment Algorithm in IEEE 802.11 WLAN", *ICCSN 2009 – International Conference on Communication Software and Networks*, February 2009, paper no. P385, pp. 801 - 806.
- C11. **R. Akl** and D. Keathly, "Robocamp: Encouraging Young Women to Embrace STEM," 4th Annual TETC Best Practices Conference, February 2009, 13 pgs.
- C12. M. Haidar, R. Ghimire, M. Al-Rizzo, **R. Akl**, Y. Chan, "Channel Assignment in an IEEE 802.11 WLAN Based on Signal-to-interference Ratio", *IEEE CCECE – Canadian Conference on Electrical and Computer Engineering: Communications and Networking*, May 2008, paper no. 1569092894, pp. 1169 - 1174.
- C13. H. Al-Rizzo, M. Haidar, **R. Akl**, and Y. Chan, "Enhanced Channel Assignment and Load Distribution in IEEE 802.11 WLANs," *IEEE International Conference on Signal Processing and Communication*, November 2007, paper no. 1569042132, pp. 768 - 771.
- C14. **R. Akl** and Y. Saravanos, "Hybrid Energy-Aware Synchronization Algorithm in Wireless Sensor Networks," *18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, September 2007, paper no 692, 5 pgs.
- C15. M. Haidar, **R. Akl**, and H. Al-Rizzo, "Channel Assignment and Load Distribution in a Power-Managed WLAN," *18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, September 2007, paper no. 463, 5 pgs.
- C16. D. Keathly and **R. Akl**, "Attracting and Retaining Women in Computer Science and Engineering: Evaluating the Results," *Proceedings of American Society for*

*Engineering Education: ASEE Annual Conference*, June 2007, paper no. AC 2007-1229, 10 pgs.

- C17. M. Haidar, **R. Akl**, H. Al-Rizzo, Y. Chan, R. Adada, "Optimal Load Distribution in Large Scale WLAN Networks Utilizing a Power Management Algorithm," *Proceedings of IEEE Sarnoff Symposium*, May 2007, 5 pgs.
- C18. R. Dantu, P. Kolan, **R. Akl**, and K. Loper, "Classification of Attributes and Behavior in Risk Management Using Bayesian Networks," *Proceedings of IEEE Intelligence and Security Informatics Conference*, May 2007, pp. 71-74.
- C19. **R. Akl** and A. Arepally, "Dynamic Channel Assignment in IEEE 802.11 Networks," *Proceedings of IEEE Portable 2007: International Conference on Portable Information Devices*, March 2007, pp 309-313.
- C20. **R. Akl** and U. Sawant, "Grid-based Coordinated Routing in Wireless Sensor Networks," *Proceedings of IEEE CCNC 2007: Consumer Communications and Networking Conference*, January 2007, pp. 860-864.
- C21. **R. Akl** and A. Arepally, "Simulation of Throughput in UMTS Networks with Different Spreading Factors," *Proceedings of IEEE VTC Fall 2006: Vehicular Technology Conference*, September 2006, pp. C1-5.
- C22. A. Alhabsi, H. Al-Rizzo, and **R. Akl**, "Parity Assisted Decision Making for QAM Modulation," *International Conference on Mobile Computing and Wireless Communications*, September 2006, paper no. 1568988776, 5 pgs.
- C23. **R. Akl** and R. Garlick, "Retention and Recruitment of Women in Computer Engineering," *ICEE 2006: International Conference on Engineering Education*, July 2006, paper no. 3318, 5 pgs.
- C24. R. Garlick and **R. Akl**, "Intra-Class Competitive Assignments in CS2: A One-Year Study," *ICEE 2006: International Conference on Engineering Education*, July 2006, paper no. 3325, 5 pgs.
- C25. **R. Akl**, D. Tummala, and X. Li, "Indoor Propagation Modeling at 2.4 GHz for IEEE 802.11 Networks," *WNET 2006: Wireless Networks and Emerging Technologies*, July 2006, paper no. 510-014, 6 pgs.
- C26. P. Chen, K. Kavi, and **R. Akl**, "Performance Enhancement by Eliminating Redundant Function Execution," *Proceedings of IEEE: 39th Annual Simulation Symposium*, April 2006, pp. 143-150.
- C27. **R. Akl** and S. Nguyen, "Capacity Allocation in Multi-cell UMTS Networks for Different Spreading Factors with Perfect and Imperfect Power Control," *Proceedings of IEEE CCNC 2006: Consumer Communications and Networking*



*Conference*, January 2006, vol. 2, pp. 928-932.

- C28. W. Li, K. Kavi, and **R. Akl**, "An Efficient Non-Preemptive Real-Time Scheduling," *18th International Conference on Parallel and Distributed Computing Systems*, Las Vegas, NV, September 2005, pp. 154-160.
- C29. S. Nguyen and **R. Akl**, "Approximating User Distributions in WCDMA Networks Using 2-D Gaussian," *CCCC20T 05: International Conference on Computing, Communications, and Control Technologies*, July 2005, 5 pgs.
- C30. **R. Akl** and S. Park, "Optimal Access Point Selection and Traffic Allocation in IEEE 802.11 Networks," *Proceedings of 9th World Multiconference on Systemics, Cybernetics and Informatics (WMSCI 2005): Communication and Network Systems, Technologies and Applications*, July 2005, vol. 8, pp. 75-79.
- C31. **R. Akl**, M. Naraghi-Pour, M. Hegde, "Throughput Optimization in Multi-Cell CDMA Networks," *IEEE WCNC 2005 - Wireless Communications, and Networking Conference*, March 2005, vol. 3, pp. 1292-1297.
- C32. **R. Akl**, "Subscriber Maximization in CDMA Cellular Networks," *Proceedings of CCCT 04: International Conference on Computing, Communications, and Control Technologies*, August 2004, vol. 3, pp. 234-239.
- C33. **R. Akl** and A. Parvez, "Global versus Local Call Admission Control in CDMA Cellular Networks," *Proceedings of CITSA 04: Communications, Information and Control Systems, Technologies and Applications*, July 2004, vol. 2, pp. 283-288.
- C34. **R. Akl** and A. Parvez, "Impact of Interference Model on Capacity in CDMA Cellular Networks," *Proceedings of SCI 04: Communication and Network Systems, Technologies and Applications*, July 2004, vol. 3, pp. 404-408. Selected as **best paper** of those presented in the session: Tele-Communication Systems, Technologies and Application II.
- C35. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, "Call Admission Control Scheme for Arbitrary Traffic Distribution in CDMA Cellular Systems," *IEEE Wireless Communications and Networking Conference*, September 2000, vol. 1, pp. 465-470.
- C36. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, "Cell Placement in a CDMA Network," *IEEE Wireless Communications and Networking Conference*, September 1999, vol. 2, pp. 903-907.
- C37. **R.G. Akl**, M.V. Hegde, P.S. Min, "Effects of Call Arrival Rate and Mobility on Network Throughput in Multi-Cell CDMA," *IEEE International Conference on Communications*, June 1999, vol. 3, pp. 1763-1767.

- C38. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, "Flexible Allocation of Capacity in Multi-Cell CDMA Networks," *IEEE Vehicular Technology Conference*, May 1999, vol. 2, pp. 1643-1647.

### Journal Publications

- J1. M. Haidar, H.M. Al-Rizzo, **R. Akl**, and Z. Elbazzal, "The Effect of an Enhanced Channel Assignment Algorithm in an IEEE 802.11 WLAN," *World Scientific and Engineering Academy and Society Transactions on Communications*, WSEAS, Vol. 8, Issue 12, December 2009.
- J2. **R. Akl**, P. Kadiyala, and M. Haidar, "Non-Uniform Grid-Based Coordinated Routing in Wireless Sensor Networks", *Journal of Sensors*, article ID 491349, volume 2009, 11 pages.
- J3. M. Haidar, M. Al-Rizzo, Y. Chan, **R. Akl**, "User-Based Channel Assignment Algorithm in a Load-Balanced IEEE 802.11 WLAN", *International Journal of Interdisciplinary Telecommunications & Networking (IJITN)*, April-June 2009, 1(2), pp. 66-81.
- J4. **R. Akl**, D. Keathly, and R. Garlick, "Strategies for Retention and Recruitment of Women and Minorities in Computer Science and Engineering," *iNEER Special Volume: Innovations 2007- World Innovations in Engineering Education and Research*, 9 pgs., 2007.
- J5. R. Garlick and **R. Akl**, "Motivating and Retaining CS2 Students with a Competitive Game Programming Project," *iNEER Special Volume: Innovations 2007- World Innovations in Engineering Education and Research*, 9 pgs., 2007.
- J6. **R. Akl** and S. Nguyen, "UMTS Capacity and Throughput Maximization for Different Spreading Factors," *Journal of Networks*, July 2006, vol. 1, issue 3, pp. 40-49. ISSN: 1796-2056
- J7. W. Li, K. Kavi, and **R. Akl**, "A Non-preemptive Scheduling Algorithm for Soft Real-time Systems," *Journal of Computer and Electrical Engineering*, 2006, vol. 32, 18 pgs. ISSN: 0045-7906
- J8. **R. Akl**, A. Parvez, and S. Nguyen, "Effects of Interference on Capacity in Multi-Cell CDMA Networks," *Journal of Systemics, Cybernetics and Informatics*, 2006, vol. 3, no. 1, p825612, 7 pgs. ISSN: 1690-4524
- J9. **R.G. Akl**, M. Hegde and M. Naraghi-Pour, "Mobility-based CAC Algorithm for Arbitrary Traffic Distribution in CDMA Cellular Systems," *IEEE Transactions on Vehicular Technology*, March 2005, vol. 54, no. 2, pp. 639-651.

- J10. **R.G. Akl**, M.V. Hegde, M. Naraghi-Pour, P.S. Min, "Multi-Cell CDMA Network Design," *IEEE Transactions on Vehicular Technology*, May 2001, vol. 50, no. 3, pp. 711-722.

### Technical Papers

- T1. J. Williams, **R. Akl**, et al, "Flight Control Subsystem," *The Eagle Feather*, Special Section: Undergraduate Research Initiative in Engineering, University of North Texas, Vol. 7, 2010.
- T2. **R.G. Akl**, M.V. Hegde, A. Chandra, P.S. Min, "CDMA Capacity Allocation and Planning," Technical Document, Washington University Department of Electrical Engineering WUEE-98, April 1998.

### Book Chapters

- B1. R. Akl, Y. Saravanos, and M. Haidar, "Chapter 18: Hybrid Approach for Energy-Aware Synchronization in Sensor Networks," *Sustainable Wireless Sensor Networks*, December 2010, pgs. 413-429, ISBN: 978-953-307-297-5.
- B2. K. Kavi, **R. Akl** and A. Hurson, "Real-Time Systems: An Introduction and the State-of-the-Art," *Encyclopedia of Computer Science and Engineering*, John Wiley & Sons, Volume 4, January 2009, pgs. 2369-2377.
- B3. **R. Akl** and K. Kavi, "Chapter 12: Modeling and Analysis using Computational Tools," *Introduction to Queuing Theory: Modeling and Analysis*, Birkhauser Boston, December 2008, pgs. 295-320.

### Technical Presentations

- P1. "Bio-Com Project," Raytheon, Richardson TX, May 2012, (invited).
- P2. "Bio-Com Project," Net-Centric Software and Systems I/UCRC Meeting, Denton TX, December 2011, (invited).
- P3. "Student Outreach Report: Robocamp," College of Engineering Advisory Board Meeting, Denton TX, May 2011, (invited).
- P4. "Robocamp: Encouraging Young Women to Embrace STEM," 4th Annual TETC Best Practices Conference, Austin TX, February 2009, (invited).
- P5. "Self-Configuring Wireless MEMS Network (demo)," Southern Methodist University, Dallas TX, January 2008, (invited).
- P6. "Energy-aware Routing and Hybrid Synchronization in Sensor Networks," *Southern Methodist University*, Dallas TX, September 2007, (invited).

- P7. "Retention and Recruitment of Women in Computer Engineering," *ICEE 2006: International Conference on Engineering Education*, Puerto Rico, July 2006, (refereed).
- P8. "Capacity Allocation in Multi-cell UMTS Networks for Different Spreading Factors with Perfect and Imperfect Power Control," *IEEE CCNC 2006: Consumer Communications and Networking Conference*, Las Vegas, NV, January 2006, (refereed).
- P9. "Research, Teaching, and Outreach," CSE Advisory Council Meeting, *UNT Research Park*, Denton, TX, December 2005, (invited).
- P10. "WiFi and WCDMA Network Design," *University of Arkansas*, Little Rock, AR, April 2005, (invited).
- P11. "WiFi and WCDMA Network Design," *Southern Methodist University*, Dallas, TX, March 2005, (invited).
- P12. "Current Research in Wireless at UNT," *Nortel Networks*, Richardson, TX, October 2004, (invited).
- P13. "Subscriber Maximization in CDMA Cellular Networks," *International Conference on Computing, Communications, and Control Technologies*, Austin, TX, August 2004, (refereed).
- P14. "Global versus Local Call Admission Control in CDMA Cellular Networks," *International Conference on Cybernetics and Information Technologies, Systems and Applications*, Orlando, FL, July 2004, (refereed).
- P15. "Impact of Interference Model on Capacity in CDMA Cellular Networks," *8th World Multi-Conference on Systemics, Cybernetics, and Informatics*, Orlando, FL, July 2004, (refereed).
- P16. "CDMA Network Design," *IEEE Communications Society – New Orleans Chapter*, New Orleans, LA, May 2002, (invited).
- P17. "Cell Design to Maximize Capacity in CDMA Networks," *Louisiana State University*, Baton Rouge, LA, April 2002, (invited).
- P18. "Call Admission Control Scheme for Arbitrary Traffic Distribution in CDMA Cellular Systems," *IEEE Wireless Communications and Networking Conference*, Chicago, IL, September 2000, (refereed).
- P19. "Cell Placement in a CDMA Network," *IEEE Wireless Communications and Networking Conference*, September 1999, (refereed).

- P20. "Effects of Call Arrival Rate and Mobility on Network Throughput in Multi-Cell CDMA," *IEEE International Conference on Communications*, June 1999, (refereed).
- P21. "Flexible Allocation of Capacity in Multi-Cell CDMA Networks," *IEEE Vehicular Technology Conference*, May 1999, (refereed).
- P22. "CCAP: A Strategic Tool for Managing Capacity of CDMA Networks," Teleware Co. Ltd., Seoul, South Korea, 1998, (invited).

## Courses Developed

- CSCE 5933: LTE Physical Layer Using MATLAB.  
Research issues in the design of LTE physical layer and simulate using MATLAB. Topics include modulation and coding, OFDM, channel modeling, MIMO, and link adaptation.
- CSCE 6590: Advanced Topics in Wireless Communications & Networks: 4G/LTE.  
Research issues in the design of next generation wireless networks: cellular systems, medium access techniques, signaling, mobility management, control and management for mobile networks, wireless data networks, Internet mobility, quality-of-service for multimedia applications, caching for wireless web access, and ad hoc networks.
- CSCE 5933: Fundamentals of VoIP.  
Fundamentals of VoIP, with emphasis on network infrastructure implementation and security. Topics include IP protocol suite, SS7, speech-coding techniques, quality of service, session initiation protocol, and security issues.
- CSCE 5540: Introduction to Sensor Networks.  
Topics include: design implications of energy (hardware and software), and otherwise resource-constrained nodes; network self-configuration; services such as routing under network dynamics, localization, time-synchronization and calibration; distributed data management, in-network aggregation and collaborative signal processing, programming tools and language support.
- CSCE 5510: Wireless Communication.  
Point-to-point signal transmission through a wireless channel, channel capacity, channel encoding, and multi-user transmissions. First, second, and third generation cellular systems, and mobility management.
- CSCE 3510: Introduction to Wireless Communication.  
Fundamentals of wireless communications and networking, with emphasis on first, second, and third generation cellular systems. Topics include point-to-point signal

transmission through a wireless channel, cellular capacity, multi-user transmissions, and mobility management.

- CSCE 3020. Communications Systems.  
Introduction to the concepts of transmission of information via communication channels. Amplitude and angle modulation for the transmission of continuous-time signals. Analog-to-digital conversion and pulse code modulation. Transmission of digital data. Introduction to random signals and noise and their effects on communication. Optimum detection systems in the presence of noise.
- ENEE 3583. Computer Systems Design I (UNO).  
The design process of digital computer systems is studied from the instruction set level, system architecture level, and digital logic level. Topics include machine organization, register transfer notation, processor design, memory design, and input/output considerations. Includes semester project.
- ENEE 3584. Computer Systems Design II (UNO).  
The design and evaluation of contemporary computer systems are analyzed to compare the performance of different architectures. Topics include performance metrics, computer arithmetic, pipelining, memory hierarchies, and multiprocessor systems.
- ENEE 3514. Computer Architecture Laboratory (UNO).  
Selected experiments examining programmable logic, VHDL and logic synthesis, and including a final design project, to accompany and complement the lecture course ENEE 3584. Three hours of laboratory.

## Courses Taught

Spring 2017

- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2016

- CSCE 5933.3: LTE Physical Layer Using MATLAB (4.7 / 5.0)

Spring 2016

- CSCE 5950.743: Thesis (no evaluation done)
- CSCE 6950.743: Dissertation (no evaluation done)

Fall 2015

- CSCE 3010.1: Signals and Systems (5.7 / 7.0)

Spring 2015

- CSCE 5934.743: Directed Study (no evaluation done)

Fall 2014

- CSCE 3010.1: Signals and Systems (3.32 / 4.00)
- CSCE 6590.1: Advanced Topics in Wireless Communications & Networks: 4G/LTE (3.79 / 4.00)

Spring 2014

- CSCE 3510.1: Intro to Wireless Communication (808 – Highly Effective)
  - CSCE 5510.1: Wireless Communications (808 – Highly Effective)
- Fall 2013
- CSCE 6590.1: Advanced Topics in Wireless Communications & Networks: 4G/LTE (804 – Highly Effective)
- Spring 2013
- CSCE 4890.743: Directed Study (no evaluation done)
  - CSCE 6940.743: Individual Research (no evaluation done)
- Fall 2012
- CSCE 3010.1: Signals and Systems (793 – Highly Effective)
  - CSCE 5540.1: Intro to Sensor Networks (814 – Highly Effective)
- Spring 2012
- CSCE 3020.1: Communication Systems (809 – Highly Effective)
  - CSCE 3510.1: Intro to Wireless Communication (811 – Highly Effective)
  - CSCE 5510.1: Wireless Communications (817 – Highly Effective)
  - EENG 3810.1: Communication Systems (801 – Highly Effective)
- Fall 2011
- CSCE 3010.1: Signals and Systems (793 – Highly Effective)
  - CSCE 5540.1: Intro to Sensor Networks (824 – Highly Effective)
- Spring 2011
- CSCE 3020.1: Communication Systems (820 – Highly Effective)
  - CSCE 3510.1: Intro to Wireless Communication (812 – Highly Effective)
  - CSCE 5510.1: Wireless Communications (812 – Highly Effective)
  - EENG 3810.1: Communication Systems (826 – Highly Effective)
- Fall 2010
- CSCE 3010.1: Signals and Systems (857 – Highly Effective)
  - CSCE 5540.1: Intro to Sensor Networks (831 – Highly Effective)
- Spring 2010
- CSCE 3020.1: Communication Systems (792 – Highly Effective)
  - CSCE 3510.1: Intro to Wireless Communication (793 – Highly Effective)
  - CSCE 5510.1: Wireless Communications (834 – Highly Effective)
  - EENG 3810.1: Communication Systems (854 – Highly Effective)
- Fall 2009
- CSCE 3010.1: Signals and Systems (4.40 / 5.00)
  - CSCE 5540.1: Intro to Sensor Networks (4.70 / 5.00)
  - EENG 2620.1: Signals and Systems (4.40 / 5.00)
- Spring 2009
- CSCE 3020.1: Communication Systems (4.87 / 5.00)
  - CSCE 3510.1: Intro to Wireless Communication (4.65 / 5.00)
  - CSCE 5510.1: Wireless Communications (4.79 / 5.00)
- Fall 2008
- CSCE 3010.1: Signals and Systems (4.91 / 5.00)
  - CSCE 5540.2: Intro to Sensor Networks (4.10 / 5.00)
  - EENG 2620.3: Signals and Systems (4.91 / 5.00)

Spring 2008

- CSCE 3020.1: Communication Systems (4.68 / 5.00)
- CSCE 3510.1: Intro to Wireless Communication (3.96 / 5.00)
- CSCE 5510.1: Wireless Communications (4.75 / 5.00)

Fall 2007

- CSCE 3010.1: Signals and Systems (4.57 / 5.00)
- CSCE 5540.2: Intro to Sensor Networks (4.01 / 5.00)

Summer 2007

- CSCE 3020.1: Fund. of Communication Theory (no evaluation done)
- EENG 3810.1: Communication Systems (no evaluation done)

Spring 2007

- CSCE 5510.2: Wireless Communications (4.75 / 5.00)
- CSCE 5933.6: Fundamentals of VoIP (4.70 / 5.00)

Fall 2006

- CSCE 3010.1: Signals and Systems (4.58 / 5.00)
- CSCE 5540.1: Intro to Sensor Networks (4.70 / 5.00)
- EENG 2620.1: Signals and Systems (4.58 / 5.00)

Summer 2006

- CSCE 3020.1: Fund. of Communication Theory (no evaluation done)
- CSCE 3510.21: Intro to Wireless Communications (no evaluation done)
- CSCE 5510.21: Intro to Wireless Communications (no evaluation done)
- EENG 3810.1: Communication Systems (no evaluation done)

Spring 2006

- CSCE 2610.2: Computer Organization (3.69 / 5.00)
- CSCE 3010.1: Signals and Systems (4.41 / 5.00)
- EENG 2620.1: Signals and Systems (4.41 / 5.00)

Fall 2005

- CSCE 3510.1: Intro to Wireless Communications (4.52 / 5.00)
- CSCE 5510.1: Wireless Communications (4.46 / 5.00)
- CSCE 5933.6: Intro to Sensor Networks (4.60 / 5.00)

Summer 2005

- CSCE 3010.21: Signals and Systems (no evaluation done)
- CSCE 3510.21: Intro to Wireless Communications (no evaluation done)

Spring 2005

- CSCE 3510.02: Intro to Wireless Communications (4.46 / 5.00)
- CSCI 3100.02: Computer Organization (4.14 / 5.00)

Fall 2004

- CSCE 3510.01: Intro to Wireless Communications (4.15 / 5.00)
- CSCI 4510.01: Machine Structures (4.55 / 5.00)
- CSCI 5330.02: Intro to Wireless Communications (4.05 / 5.00)

Summer 2004

- CSCI 4330.22: Intro to Wireless Communications (no evaluation done)
- CSCI 4330.23: Intro to Wireless Communications (no evaluation done)
- CSCI 5330.22: Intro to Wireless Communications (no evaluation done)



Spring 2004

- CSCI 3100: Computer Organization (4.64 / 5.00)
- CSCI 4330: Intro to Wireless Communications (4.22 / 5.00)

Fall 2003

- CSCI 4510: Machine Structures (4.49 / 5.00)
- CSCI 5330: Intro to Wireless Communications (4.83 / 5.00)

Summer 2003

- CSCI 3100: Computer Organization (no evaluation done)

Spring 2003

- CSCI 3100: Computer Organization (3.84 / 5.00)

Fall 2002

- CSCI 4510: Machine Structures (4.38 / 5.00)

## Funded Proposals

- R1. "Robotics and App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$11,727. Submitted 5/5/17. Robert Akl (PI), **awarded \$11,727.**
- R2. "UNT GenCyber Summer Program: Inspiring the Next Generation of Cyber Stars in North Texas," National Security Agency (NSA). Requested amount is \$85,000. Submitted 11/4/2016. Robert Akl (co-PI), **awarded \$85,000.**
- R3. "App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$12,900. Submitted 5/6/16. Robert Akl (PI), **awarded \$12,900.**
- R4. "Robotics, Game and App Programming Summer Camps" under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 11/16/15. Robert Akl (PI), **awarded \$63,000.**
- R5. "App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$13,998. Submitted 5/1/15. Robert Akl (PI), **awarded \$13,988.**
- R6. "App Design Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$12,500. Submitted 5/2/14. Robert Akl (PI), **awarded \$12,500.**
- R7. "Robotics, Game and App Programming Summer Camps" under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 12/14/12. Robert Akl (PI), **awarded \$63,000.**

- R8. "Bio-Com Project," funded by Raytheon under Net-Centric Software and Systems I/UCRC 2<sup>nd</sup> year. Requested amount is \$30,000. Submitted 5/12/12. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$30,000.**
- R9. "Bio-Com Project," funded by Raytheon under Net-Centric Software and Systems I/UCRC. Requested amount is \$30,000. Submitted 5/12/11. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$30,000.**
- R10. "Game Programming for Xbox 360 Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$20,000. Submitted 3/21/11. Robert Akl (PI), **awarded \$20,000.**
- R11. "RoboCamps and Game Programming Summer Camps" under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 2/17/11. Robert Akl (PI), **awarded \$63,000.**
- R12. "Game Programming for Xbox 360 Summer Camp" under Texas Higher Education Coordinating Board: Engineering Summer Program. Requested amount is \$13,000. Submitted 2/22/10. Robert Akl (PI), **awarded \$18,000.**
- R13. "Robotics and Game Programming Summer Camps" under Texas Workforce Commission: Summer Merit Program. Requested amount is \$63,000. Submitted 10/16/09. Robert Akl (PI), **awarded \$63,000.**
- R14. "Micro Air Vehicle Design: A Collaborative Undergraduate Project for Electrical Engineering, Computer Engineering, and Computer Science Students," under UNT Undergraduate Research Initiative. Submitted 9/25/2009. Robert Akl (co-PI), **awarded \$8,000.**
- R15. "Summer Merit Program" under Texas Workforce Commission. Requested amount is \$42,000. Submitted 3/20/09. Robert Akl (PI), **awarded \$42,000.**
- R16. "Robocamp at Stewpot" under Dallas Women's Foundation. Requested amount is \$20,000. Submitted 2/23/09. Robert Akl (PI), **awarded \$18,600.**
- R17. "Robocamp Jump Start" under Motorola Foundation Innovation Generation Grant. Requested amount is \$29,852. Submitted 2/12/09. Robert Akl (PI), **awarded \$30,700.**
- R18. "Engineering Summer Program" under Texas Higher Education Coordinating Board. Requested amount is \$7,944. Submitted 2/13/09. Robert Akl (PI), **awarded \$11,111.**
- R19. "Texas Youth in Technology" under Texas Workforce Commission. Requested amount is \$152,393. Submitted 11/10/08. Robert Akl (PI), **awarded \$152,393.**

- R20. "IUCRC Center Proposal: Net-Centric Software and Systems," under NSF-07-537: Industry/University Cooperative Research Centers. Requested amount is \$349,482. Submitted 9/26/08. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$60,000 per year for 5 years.**
- R21. "Robocamp and Beyond" under Motorola Foundation Innovation Generation Grant. Requested amount is \$30,000. Submitted 6/20/08. Robert Akl (PI), **awarded \$30,000.**
- R22. "Texas Youth in Technology" under Texas Workforce Commission. Requested amount is \$30,000. Submitted 2/27/08. Robert Akl (PI), **awarded \$31,500.**
- R23. "Robocamp Program for Young Women" under RGK foundation. Requested amount is \$30,000. Submitted 11/5/07. Robert Akl (PI), **awarded \$15,000.**
- R24. "Texas Youth in Technology" under Texas Workforce Commission. Requested amount is \$102,514. Submitted 10/22/07. Robert Akl (PI), **awarded \$102,514.**
- R25. "Women Art Technology" under Hispanic and Global Studies Initiatives Fund. Requested amount is \$14,125. Submitted 9/30/07. Jennifer Way (PI), Robert Akl (co-PI), **awarded \$12,785.**
- R26. "Robocamp Mobile Unit" under Motorola Foundation Innovation Generation Grant. Requested amount is \$35,000. Submitted 6/20/07. Robert Akl (PI), **awarded \$30,000.**
- R27. "ICER: UNT Engineering Challenge Camps" under NSF 0547299. Requested amount is \$35,000. Submitted 4/27/07. Oscar Garcia (PI), Robert Akl (senior personnel), **awarded \$32,792.**
- R28. "IUCRC-Planning Proposal: UNT Research Site Proposal to join Embedded Systems I/UCRC," under NSF-01-116: Industry/University Cooperative Research Centers. Requested amount is \$10,000. Submitted 3/31/07. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$10,000.**
- R29. "High-assurance NCCS: Ultra Dependability Integration Engineering," Department of Defense. Requested amount is \$20,000. Submitted 3/12/07. Krishna Kavi (PI), Robert Akl (co-PI), **awarded \$20,000.**
- R30. "Recruiting and Retention Strategies for Computer Science at UNT" under Texas Technology Workforce Development Grant Program – 2005. Requested amount is \$163,322. Submitted 3/17/05. Robert Akl (PI), **awarded \$125,322.**
- R31. UNT Faculty Research Grant for Fall 2003, Robert Akl (PI), \$5,000, **awarded \$4,000.**

R32. UNT Junior Faculty Summer Research Fellowship for Summer 2003, Robert Akl (PI), \$5,000, **awarded \$5,000.**

## **Professional Associations and Achievements**

### **Membership in Professional Organizations**

- Senior Member IEEE
- Member, Federation Council of North Texas Universities
- Member, Eta Kappa Nu Electrical Engineering Honor Society
- Member, Golden Key National Honor Society
- Member, Tau Beta Pi Engineering Honor Society

### **Offices and Committee Assignments in Professional Organizations**

- Technical Program Committee Member, IEEE Wireless Communications and Networking Conference, IEEE WCNC
- Technical Program Committee Member, International Wireless Symposium, IWS
- Technical Program Committee Member, IEEE International Conference on Computational Science, IEEE ICCS
- Technical Program Committee Member, IASTED International Conference on Wireless Communications, WC
- Technical Program Committee Member, WTS Wireless Telecommunications Symposium
- Technical Program Committee Member, Mosharaka International Conference on Computer Science and Engineering, Amman
- Invitation to serve as an NSF reviewer/panelist for Engineering Research Centers (ERC) proposals
- Technical Program Committee Member, 18th IEEE International Symposium on Personal, Indoor and Mobile Radio Communication, Greece
- International Program Committee, IASTED International Conference on Wireless and Optical Communication, Canada
- Program Committee Member, Fifth Annual Wireless Telecommunications Symposium, CA
- Technical Publications Chair, IEEE Vehicular Technology Conference, Dallas TX
- Session Chair, International Conference on Computing, Commun. and Control Tech., Austin TX
- Session Chair, International Conference on Cybernetics and Information Technologies, Orlando FL
- Session Chair, 8th World Multi Conference on Systemics, Cybernetic, and Informatics, Orlando FL

## Additional Responsibilities and Activities

- Reviewer, *Wireless Communications and Mobile Computing*, 2012 – present
- Reviewer, *Journal of Sensor and Actuator Networks*, 2012 – present
- Reviewer, *IEEE Transactions on Vehicular Technology*, 2011 – present
- Reviewer, *Elsevier Journal of Computers & Electrical Engineering*, 2008 – present
- Reviewer, *IEEE Globecom*, 2007 – present
- Reviewer, *IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS)*, 2008 – present
- Reviewer, *The International Wireless Communications and Mobile Computing Conference*, 2007 – present
- Reviewer, *Journal on Wireless Communications and Networking*, 2007 – present
- Reviewer, *IEEE Transactions on Communications*, 2007 - present
- Reviewer, *International Journal of Communication Systems*, 2007 – present
- Reviewer, *IEEE Communications Magazine*, 2005 – present
- Reviewer, *Journal of Wireless Networks*, 2004 – present
- Reviewer, *IEEE Transactions on Mobile Computing*, 2004 – present
- Reviewer, *IEEE Transactions on Wireless Communications*, 2004 – present
- Reviewer, *ACM Crossroads*, 2004 – present

## Honors and Awards

- Who's Who in America, 2012 Edition
- Winner of Tech Titan of the Future – University Level Award for UNT Robocamps for Girls, Metroplex Technology Business Council, 2010 with **\$15,000 cash prize**.
- IEEE Professionalism Award, Ft Worth Chapter, 2008
- UNT College of Engineering Outstanding Teacher Award, 2008
- Certificate of Appreciation: IEEE Vehicular Technology Conference, Dallas, TX, 2005
- Certificate of Appreciation: Denton County Boosting Engineering, Science and Technology (BEST) Robotics Competition, 2004
- Summa Cum Laude Graduate, Ranked First in Undergraduate Class
- The Computer Science Departmental Award for Academic Excellence, Washington University, 1993
- The Dual Degree Engineering Award for Outstanding Senior, Washington University, 1993
- The 1992 Technical Writing Competition Award, The Society for Technical Communication

**Exhibit B**  
**to Akl Declaration**

**List of Documents Considered**

All materials considered are identified in the Declaration.

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	29668068
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	30-JUN-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	15:24:28
<b>Application Type:</b>	Reexam (Patent Owner)

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ReplytoOfficeAction.pdf	2492566  f7ec628c74da84e293348596641c95434ea dc271	yes	105



Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Response after non-final action-owner timely			1	104	
Reexam Certificate of Service			105	105	
<b>Warnings:</b>					
<b>Information:</b>					
2	Miscellaneous Incoming Letter	ResponseExhibitA.pdf	57469	no	7
			11768a7e6af809636808c96883e42b4596e dba44		
<b>Warnings:</b>					
<b>Information:</b>					
3	Miscellaneous Incoming Letter	ResponseExhibitB.pdf	72957	no	9
			fbcb4732206b7bbccce9a963ecd71def310f 2460		
<b>Warnings:</b>					
<b>Information:</b>					
4	Miscellaneous Incoming Letter	ResponseExhibitC.pdf	745101	no	58
			6e8961022899d57085153069fab2870e4e9 3aa2d		
<b>Warnings:</b>					
<b>Information:</b>					
5	Miscellaneous Incoming Letter	ResponseExhibitD.pdf	726900	no	2
			aaa65ee6df7ceec460ac5cf6a401f93a4185c f49		
<b>Warnings:</b>					
<b>Information:</b>					
6	Reexam Miscellaneous Incoming Letter	AklDeclaration.pdf	2811477	no	105
			e1c62ee1fbaff548df313cdc9712553989a37 062		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			6906470		

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Control No.	: 90/013,808	Art Unit	: 3992
Patent No.	: 8,023,580	Examiner	: Yuzhen Ge
Filed	: September 12, 2016	Conf. No.	: 2211
Customer No.	: 06449	Atty. No.	: 3277-114.RXM1

Title: SYSTEM AND METHOD OF COMMUNICATION USING  
AT LEAST TWO MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
Central Reexamination Unit  
Commissioner for Patents  
United States Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY TO OFFICE ACTION**

This Reply is in response to the non-final Office Action dated March 31, 2017. On April 24, 2017, Patent Owner's petition for an extension of time was granted, extending the period for filing a response from the original due date of May 31, 2017, to June 30, 2017. Accordingly, this Reply is being timely filed.

A **Table of Contents** begins on **page 2** of this paper.

**Remarks** begin on **page 5** of this paper.

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**Table of Exhibits**

**Exhibit A:** Timeline of Rembrandt Litigation, IPRs and Reexaminations

**Exhibit B:** Comparison of Cited Portions of Snell with Substantially Identical Portions of Boer

**Exhibit C:** Claim Construction Order in *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, No. 2:13-cv-00213 (E.D. Tex. 2013)

**Exhibit D:** Comparison of the Requester’s Presentation of Snell’s Fig. 3 and Boer’s Fig. 4

**Remarks**

**I. Introduction**

Claims 2 and 59 of the U.S. Patent No. 8,023,580 (“580 Patent”) are the subject of this *ex parte* reexamination, Control No. 90/013,808. In their entirety, they read:

2. [A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence],

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

59. [A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master

occurs in response to a master message from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, and wherein the transceiver is configured to transmit messages with:

a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence],

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

In this Response, Patent Owner challenges the Office's findings and determinations made in the Office's Order for Ex Parte Reexamination (mailed 9/27/16) ("Order") and its non-final Office Action (mailed March 31, 2017) ("3-31-17 Office Action") rejecting claims 2 and 59 of the '580 Patent. Notably, neither the Order nor the 3-31-17 Office Action cites to or incorporates material in the Request, except to merely



identify the SNQs proposed by the Requestor (Order, at 8), and to provide certain claim term definitions (3-31-17 Office Action, at 7).<sup>1</sup>

**A. Summary of the Office’s Order Determining That There Existed A Substantial New Question (“SNQ”) and Its Office Action Rejecting Claims 2 and 59 of the ‘580 Patent**

**1. The Office’s Order**

In its Order, the Office identified the following alleged prior art:

- i. U.S. Patent No. 5,982,807, filed on Mar. 17, 1997 and issued on Nov. 9, 1999, to Snell, J. (“Snell”).
- ii. U.S. Patent No. 6,075,814, filed on May 9, 1997 and issued on Jun. 13, 2000, to Yamano, L., et al. (“Yamano”).
- iii. Andren, C. et al., “Using the PRISM™ Chip Set for Low Data Rate Applications,” Harris Semiconductor Application Note No. AN9614, March 1996 (“Harris AN9614”).
- iv. “HSP3824 Direct Sequence Spread Spectrum Baseband Processor,” Harris Semiconductor File No. 4064.4, Oct. 1996 (“Harris 4064.4”).
- v. Kamerman, A., “Throughput Density Constraints for Wireless LANs Based on DSSS,” IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3 (“Kamerman”).
- vi. Upender et al., “Communication Protocols for Embedded Systems,” Embedded Systems Programming, Vol. 7, Issue 11, November 1994 - (“Upender”).

Order at 3-4.

Based on this art, the Office identified the following four SNQs:

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<sup>1</sup> The claims of the ‘580 Patent have been the subject of numerous IPRs and district court litigation. *See* their history in the timeline in Exhibit A. All relevant litigation is identified in Exhibit A. With respect to invalidity/patentability issues, all litigation has been completed in the district court and in the Federal Circuit.

- 1) Claims 2 and 59 of the '580 Patent based on Snell alone;
- 2) Claims 2 and 59 of the '580 Patent based on Snell in view of Yamano and Kamerman;
- 3) Claims 2 and 59 of the '580 Patent based on Snell in view of Harris 4064.4, Harris AN9614, Yamano, and Kamerman; and
- 4) Claims 2 and 59 of the '580 Patent based on Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman.

Order at 11 (“Because Snell raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent, Snell in view of Yamano and Kamerman, Snell in view of Harris 4064.4, Harris AN9614, Yamano and Kamerman, or Snell in view of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman, also raises a substantial new question of patentability as to claims 2 and 59 of the 580 patent.”).

Based on the Office’s analysis of Snell alone, the Office concluded that Snell raised an SNQ and thus that the proposed combinations also raised additional SNQs. Order at 8-11. In so concluding, the Office did not compare the art previously before it and considered in the IPRs of the ‘580 Patent but instead reasoned:

Because Snell was not cited or before the Office during prior prosecutions of the 580 patent and related patents and during prior inter partes review of the 580 patent, Snell in combination with other references are not before the Office prior to the instant reexamination. Accordingly, Snell in combination with other references can be used to raise a substantially new question of patentability in the *ex parte* reexamination proceeding.

Order, at 4.

The Office’s analysis falls short of that required to establish an SNQ in that it fails to recognize the fact that Snell is at best cumulative to U.S. Patent No. 4,706,428 (“Boer”) – a reference fully considered by the PTAB in multiple IPRs. An argument already decided by the Office cannot raise a new question of patentability. *E.g., Ex parte Lam Research Corp.*, 2012

WL 1178196, at 5 (PTAB 2013); MPEP § 2242 (no substantial new question of patentability if “the same question of patentability has already been decided as to the claim”). A finding that the art was not previously before the Office is not sufficient to conclude it raises an SNQ, as “the same question of patentability may have already been decided by the Office where the examiner finds the additional (newly provided) prior art patents or printed publications are merely cumulative to similar prior art already fully considered by the Office in an earlier concluded examination or review of the claim.” MPEP § 2242 I.b. *See also infra* at § II; 37 C.F.R. § 1.132 Declaration of Dr. Robert Ak1 (“Ak1”) at ¶¶ 41-70.

For the reasons given below, Patent Owner respectfully requests reconsideration of the Office’s SNQ determination and termination of this reexamination because no SNQ was identified in the Order.

## **2. The Office’s Grounds for Rejection of Claims 2 and 59**

In its 3-31-17 Office Action, the Office rejected claims 2 and 59 of the ‘580 Patent under 35 U.S.C. § 102(e) based on Snell. Office Action at 8-11. In addition to its § 102(e) rejections, the Office has rejected claims 2 and 59 of the ‘580 Patent under 35 U.S.C. § 103(a) based on Snell combined with other alleged prior art as follows:<sup>2</sup>

1. Snell in view of Yamano (relying on the alleged incorporation by reference of Harris AN9614 and Harris 4064.4) (3-31-17 Office Action at 12-17); and

---

<sup>2</sup> While the 3-31-17 Office Action lists Upender in its list of alleged “Prior Art” (3-31-17 Office Action at 3), none of the Office’s grounds of rejection relies on Upender. Thus, Patent Owner presumes the Office meant to remove this reference that appeared in the previous 10-27-16 Office Action (now stricken by the CRU Director from the record). To the extent that presumption is not correct, Patent Owner requests that the Office issue another non-final Office Action explaining the relevance of the Office’s citation to Upender.

2. Snell in view of Yamano further in view of Kamerman (3-31-17 Office Action at 17-20).

For the reasons given below, Patent Owner respectfully requests that these grounds of rejection be withdrawn and the reexamination terminated.

**B. Summary of Patent Owner's Arguments That The Office Has Not Identified A Substantial New Question of Patentability and Has Not Established That Either Claim 2 or 59 is Unpatentable Based on the Any of the Three Grounds Identified Above**

The Office has not (1) identified a substantial new question of patentability or (2) established that either claim 2 or 59 is unpatentable based on any of the above-noted grounds of rejection. That is the case for a number of reasons, summarized as follows:

1. The Office has not identified a substantial new question of patentability ("SNQ") because the art identified in its alleged SNQs (and relied on to support its grounds of rejection) is at best cumulative of art previously presented in a number of the IPRs challenging the '580 Patent and fully considered by the PTAB. *See infra* at § II; Akl, at ¶¶ 41-70.
2. The Office has not based its rejections on the broadest *reasonable* claim construction and thus has not identified where in the cited art a number of the claim limitations, when properly construed, are disclosed or suggested. *See infra* at § 3; Akl, at ¶¶ 18-27.
3. Harris AN9614 and Harris 4064.4 (collectively "Harris Documents") are not prior art and therefore could not be incorporated by reference into Snell or used as references against the '580 Patent, as their earliest publication date in the record is the date Snell issued as a patent, *i.e.*, November 9, 1999 (after the '580 priority date of December 5, 1997). *See infra* at § V. A-C; Akl, at ¶¶ 71-73.
4. The material Snell attempted to incorporate by reference is not the material the Office now relies on to support its rejections. Thus, even assuming portions of the Harris Documents were legally incorporated by reference, the material the Office is relying on was still not incorporated by reference. *See infra* at § V.D; Akl, at ¶¶ 74-75.
5. The master/slave limitations were not disclosed and would not have been suggested by any of the art relied on in the three grounds of rejection, alone or combined as the Office has proposed. *See infra* at § VI.A; Akl, at ¶¶ 101-120.

6. The “at least two types of modulation methods” limitation was not disclosed and would not have been suggested by any of the art relied on in the three grounds of rejection, alone or combined as the Office has proposed. *See infra* at § VI.B; Akl, at ¶¶ 121-130.
7. “[T]he third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method” limitation was not disclosed and would not have been suggested by any of the art relied on in the three grounds of rejection, alone or combined as the Office has proposed. *See infra* at § VI.C; Akl, at ¶¶ 131-151.
8. It would not have been obvious to modify or combine the cited art, as the Office has proposed, as there would have been no motivation to do so. In fact, one of ordinary skill in the relevant art would have been discouraged from doing so. *See infra* at § VII; Akl, at ¶¶ 152-178.

## **II. The Office Has Not Identified A Substantial New Question of Patentability**

The Office identified four alleged SNQs in its Order<sup>3</sup> (listed *supra* at § I.A.1) but did not explain how any of the art included in its alleged SNQs raises an SNQ, other than stating that the same art was not previously before the Office. Further, in its Order, the Office doesn't identify what portions of the Harris Documents, Kamerman, or Yamano it is relying on to support its SNQs. Instead it relies *solely* on Snell but even then does not compare Snell with the art previously considered by the Office. In fact, all of the art cited in the Order, including Snell, the Harris Documents, Kamerman, and Yamano (i) were previously considered by the Office or are at best cumulative to art previously considered by the Office and (ii) are being considered in the same way as the art previously considered with respect to claims 2 and 59 (*e.g.*, in the '518 IPR). The Office does not attempt to argue otherwise in its Order and does not identify any additional SNQ in its 3-31-17 Office Action. Should the Office adopt a new basis or new reasoning to support an SNQ, Patent Owner reserves the right to supplement the points set forth herein. However, it is Patent Owner's position that attempting to establish an SNQ based on the art identified in the Order and 3-31-17 Office Action would be futile, as it is no more than cumulative of the art already considered by the PTAB. *See* the discussion *infra* at § II.A-F; Akl, at ¶¶ 41-70.

More specifically, in determining that there was a substantial new question of patentability ("SNQ") based on Snell, the Office failed to properly and fully analyze the

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<sup>3</sup> As the 3-31-17 Office Action does not base any rejection on the alleged fourth SNQ, it will not be addressed further in this Response.

threshold issue of whether the same question of patentability as to claims 2 and 59 was previously decided by the PTAB. Specifically, the Office failed to analyze whether Snell is more relevant to the patentability of claims 2 and 59 than the previously-considered Boer reference, or no more than cumulative to Boer. In addition, the Office failed to analyze whether Snell is being considered in a new light, or just in the same way that Boer was previously considered by the PTAB in, *e.g.*, IPR2014-00518 (“‘518 IPR”). In fact, Snell is cumulative to Boer and is being considered in exactly the same light as Boer was previously considered. Merely substituting previously uncited art that is no more relevant to the claims’ patentability than that already considered and applying it in the same way does not raise an SNQ.

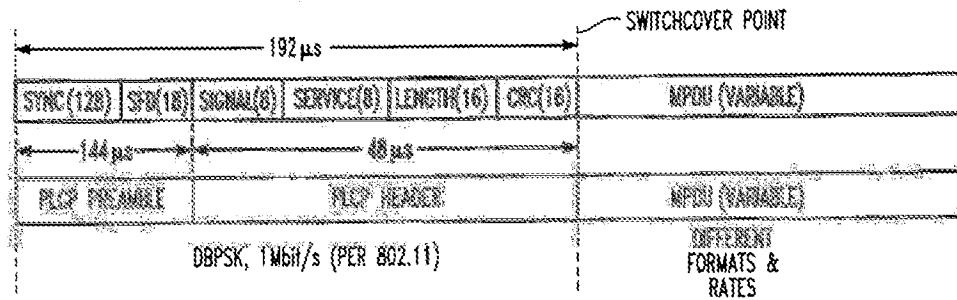
Based on the reasoning below, Rembrandt respectfully requests the Office to reconsider its decision that Snell alone raises an SNQ and thus Snell combined with other art also raises other SNQs. Order, at 11.

**A. Snell is Cumulative to Boer**

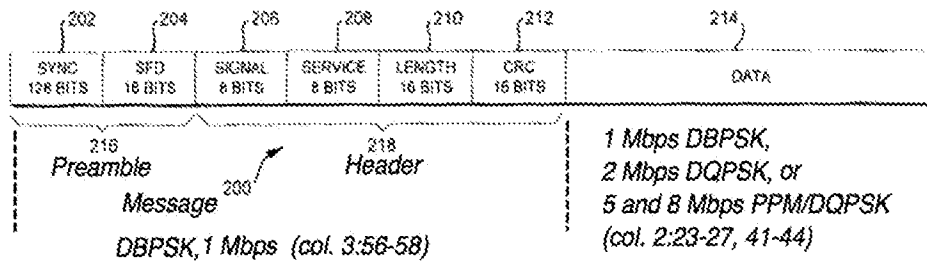
Snell is cumulative to Boer, which the PTAB fully considered in a number of IPRs of the ‘580 Patent, including the ‘518 IPR. Both references propose similar extensions to what became known as the 802.11 standard (or WiFi), namely adding two higher data rates to the 1MB/s and 2MB/s data rates in the standard. Both references use the packet structure defined by the standard, including packet headers with the same fields. The Office relies heavily on Snell’s Fig. 3 and its description of these packet structures as providing the additional limitations of claims 2 and 59. Order at 8-11 (citing to Fig. 3 seven times in four pages). Substantially identical packet structures, described in Boer and Boer’s Fig. 4, were fully considered by the PTAB in the ‘518 IPR and found unlikely to render unpatentable claims 2 and 59 of the ‘580 Patent. *See* ‘518 IPR

Institution Decision, Paper 16, at 13-15 & 17 (September 23, 2014) (quoted *infra* at § II.B).

Compare Snell's Fig. 3 with Boer's Fig. 4:



(Snell) FIG. 3



(Boer) FIG. 4

Comparing Snell's Fig. 3 with Boer's Fig. 4 and their corresponding descriptions makes clear that Snell adds nothing to Boer. This comparison demonstrates that Snell is *at best* cumulative to Boer. See Ak1, at ¶¶ 47-50.<sup>4</sup>

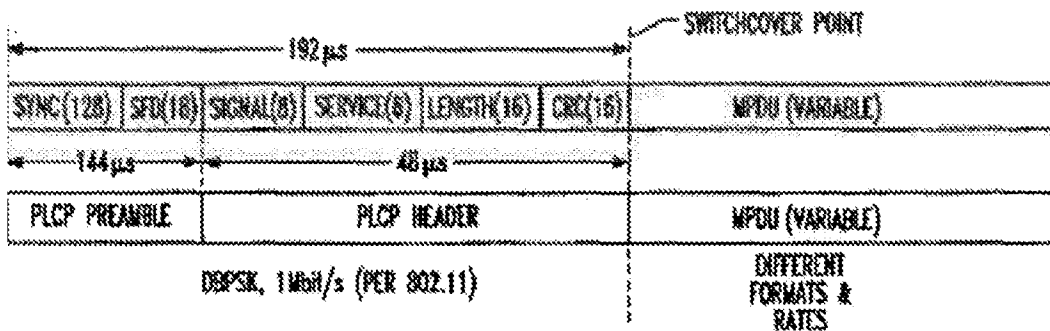
More specifically, in ordering *ex parte* reexamination of the '580 Patent, the Office found:

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at col. 4, lines 42- 47 and col. 5, lines 18-21. Snell's

<sup>4</sup> See also Exhibit D (comparing the way Requester presented Snell's Fig. 3 and Boer's Fig. 4).



transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a "first modulation method" (e.g., BPSK) and a "second modulation method" (e.g., QPSK) that is "of a different type than the first modulation method." (col. 2, lines 27-30, "It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats." col. 7, lines 10-14, "The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly." col. 2, lines 15-17, "Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-fly.").



**FIG. 3**

-Snell, Fig. 3.

Snell discloses that each data packet transmission comprises a "group of transmission sequences" structured with a "first portion" (e.g., a PLCP preamble and PLCP header) and a "payload portion" (e.g., MPDU data). Id. at col. 6, lines 35-36, col. 6, lines 64-66, col. 7, lines 5- 14, Fig. 3. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. Id. at Fig. 3, col. 6, line 48-col. 7, lines 14. The MPDU data is the data to be transmitted to the receiving transceiver. Id. at col. 7, lines 5-6 ("MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation."); see also Id. at col. 7, lines 6-14, Fig. 3.

Snell teaches that the PLCP preamble and PLCP header are always modulated using the "first modulation method" (e.g., BPSK) (col. 6, lines 35-36, "The header may always be BPSK," Fig. 3). Snell further discloses that "first information in the first portion" (e.g., the SIGNAL field in the PLCP header) "indicates" which of the "first modulation method" (e.g., BPSK) and "second modulation method" (e.g., QPSK) is used for modulating "second information" in the "payload portion" (e.g., MPDU data).

Snell teaches that the SIGNAL field in the PLCP header can have four values (col. 6, lines 54-59), each of which corresponds to a modulation method for the MPDU data (col. 6, lines 52-59, col. 7, lines 1-2, col. 7, lines 5-14, Fig. 3).

**SFD is F3A0h for the PLCP preamble 90. Now relating to the PLCP header 91, the SIGNAL is:**

0Ah	1 MHz BPSK
14h	2 MHz QPSK
37h	5.5 MHz BPSK mod
6Eh	11 MHz QPSK

-Snell, col. 6, lines 52-59.

Order, at 8-9 (emphasis in Order).

Based on these citations of Snell (produced in their entirety above) and using the claimed invention as a roadmap, the Office drew the following conclusions:

Snell's transceiver transmits a first group of transmission sequences comprising a "first sequence" (e.g., PLCP preamble and PLCP header) that is "modulated according to the first modulation method" (e.g., BPSK) where the "first sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "14h") the modulation type (e.g., QPSK) used for modulating the "second sequence" (e.g., MPDU data). For the first packet, the "SIGNAL" field in the PLCP header uses a code (e.g., "14h") that "indicates" when the MPDU data is modulated "according to the second modulation method" (e.g., QPSK). The "second modulation method" (e.g., QPSK) "is of a different type than the first modulation method" (e.g., BPSK).

Snell's transceiver then transmits a second packet comprising a "third sequence" (e.g., PLCP preamble and PLCP header) "transmitted in the first modulation method" (e.g., BPSK) where the "third sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "0Ah") the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet.

Thus, Snell teaches "transmitting a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method."

Order, at 9-11 (emphasis in Order).

In fact, the Snell disclosure relied on by the Office in its Order is substantially identical to the fully-considered disclosure in Boer.<sup>5</sup> See Exhibit B comparing the portions of Snell cited by the Office with substantially identical portions of Boer.

The Office does not identify a single disclosure in Snell more relevant to the patentability of claims 2 and 59 than that which the Office previously considered in Boer. In fact, Snell is even less relevant than Boer (due to, *inter alia*, lack of any disclosure of a destination address in Snell), which explains why it was not cited previously during the multitude of IPRs earlier filed against Rembrandt's '580 and '228 Patents or during the *Rembrandt v. Samsung* litigation.

**B. Snell is Being Considered in the Same Way that Boer Was Previously Considered by the PTAB**

In the Order, the Office has taken the position that the SIGNAL/SERVICE fields of a “subsequent” transmission taught the additional limitations of claims 2 and 59. See Order, at 10-11 (quoted above).

In the '518 IPR, the Board considered the packet structure disclosed in Fig. 4 of Boer, which, as noted above, is substantially identical to that of Snell, and squarely rejected the argument now advanced by the Office, namely, that the SIGNAL/SERVICE fields of a “subsequent” transmission taught the additional limitations of claims 2 and 59:

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<sup>5</sup> By the time the PTAB finally decided the '518 IPR in September 2015, Boer had been cited to the PTAB in at least twelve IPRs. See Exhibit A.

Claim 2, which depends from claim 1, recites that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method “and indicates that communication from the master to the slave has reverted to the first modulation method.” Petitioner submits that the recitation is met by material in Boer.

Figure 4 of Boer is reproduced below.

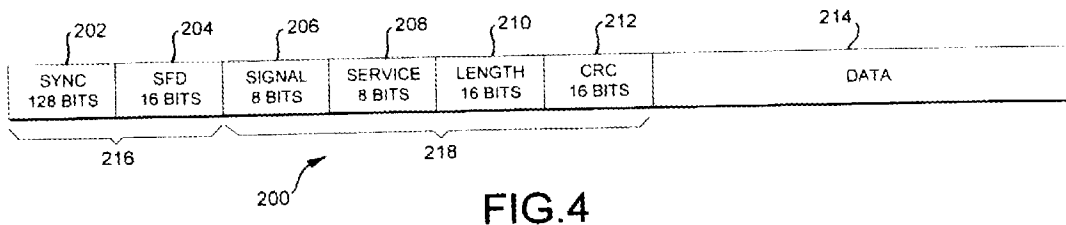


Figure 4 is said to be a diagram illustrating the format of a data message circulating in Boer’s LAN. Ex. 1204, col. 1, ll. 59–60. Message 200 includes preamble 216 and header 218, always transmitted at the 1 Mbps rate using DBPSK modulation. Subsequent DATA field 214, however, may be transmitted at any one of the four rates 1, 2, 5, or 8 Mbps, using the modulation and coding appropriate for the selected rate. *Id.* at col. 3, ll. 56–62. SIGNAL field 206 has a first value if DATA field 214 is transmitted at the 1 Mbps rate and a second value if the DATA field is transmitted at the 2, 5, or 8 Mbps rate. SERVICE field 208 has a first value for the 1 and 2 Mbps rates, a second value for the 5 Mbps rate, and a third value for the 8 Mbps rate. *Id.* at col. 4, ll. 4–11.

Petitioner submits that the “first sequence” of base claim 1 corresponds to Boer’s description of SIGNAL field 206 and SERVICE FIELD 208. E.g., Pet. 32 (claim chart). According to Petitioner, the “third sequence” of claim 2 corresponds to a subsequent transmission of SIGNAL field 206 and SERVICE field 208. Pet. 25. Petitioner concludes that the subject matter of claim 2 would have been obvious because header 218 is always transmitted using DBPSK (the “first” modulation method). *Id.* ....

\* \* \*

Petitioner has not provided sufficient evidence or explanation in support of why the fact that Boer’s SIGNAL and SERVICE fields are always transmitted using DBPSK (the “first” modulation method) might demonstrate obviousness of the subject matter of claim 2. Petitioner has failed to show, in particular, how the SIGNAL and SERVICE fields might be deemed, as alleged, to “indicate” that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2.

Independent claim 49, from which challenged claims 52 and 53 depend, recites a similar limitation with respect to how a sequence “indicates” that communication has reverted to the first modulation method. Petitioner relies, again, on Boer’s description of header 218 being always transmitted using the “first” modulation method. Pet. 39; Ex. 1220 ¶¶ 192– 195. Petitioner’s asserted ground of obviousness with respect to claim 49, thus, fails for the same reasons as that of claim 2.

Claim 59, which depends from independent claim 58, also recites a third sequence that is transmitted in the first modulation method that “indicates” communication from the master to the slave has reverted to the first modulation method. Petitioner submits, correctly, that Boer teaches that the SIGNAL and SERVICE fields in the header “indicate which modulation method is used to transmit DATA field 218.” Pet. 49. “When Boer is combined with the APA, it could therefore indicate that communication from the master to the slave has reverted to the first modulation method.” *Id.* (citing Ex. 1220 ¶¶ 232–237). Mr. Goodman repeats that “it could therefore indicate” that communication has reverted to the first modulation method (Ex. 1220 ¶ 237) and concludes, “[t]herefore, it is my opinion that claim 59 is obvious in view of the prior art” (*id.* ¶ 238). Although it appears that Petitioner attempts to provide more explanation in its challenge of dependent claim 59, as compared with that of claim 2 or 49, we are not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge of any of claims 2, 49, and 59.

‘518 IPR Institution Decision, at 13-15 (denying institution re: claims 2 and 59)(emphasis added). See Akl, at ¶¶ 51-54.

As was the case with Boer, there’s nothing in Snell that requires “the third sequence [to be] transmitted in the first modulation method and [to] indicate[] that *communication from the master to the slave has reverted to the first modulation method.*” Claims 2 and 59 (emphasis added). Akl, at ¶ 53. The fact that “[t]he PLCP preamble and PLCP header are always at 1 Mbit/s,” Snell 6:64-66 (describing Snell’s Fig. 3), does not meet this limitation. Akl, at ¶ 53. Neither does the fact that Snell’s SIGNAL field in PLCP header has four predetermined values that correlate with four data rates/modulation methods that are used to send the payload, Snell 6:48-59 (also describing Snell’s Fig. 3). Akl, at ¶ 53. Boer discloses substantially the same

information in describing Boer's Fig. 4. *See* Boer's Fig. 4 above and its description at 3:42-4:24; Akl, at ¶ 53; Exhibit B. The PTAB found that disclosure in Boer inadequate to even institute an IPR with respect to claims 2 and 59, even when combined with the APA.<sup>6</sup> *See* '518 Institution Decision (quoted *supra* at § V.B).

### **C. The Harris Documents Are Cumulative To Art Previously Considered**

There is no indication that the Office is relying on Snell's incorporation by reference of the Harris Documents in the Order and no citation to the section of Snell containing Snell's attempted incorporation by reference. However, to the extent it is doing so, the Harris Documents add nothing to the art previously and fully considered by the PTAB in a number of the IPRs of the '580 Patent, including the '518 IPR. *See* Akl, at ¶¶ 55-62.

Harris 4064.4 discloses a preamble and header that are always transmitted as *DBPSK* waveforms, a data portion transmitted as either *DBPSK* or *DQPSK*, and a *SIGNAL* field that indicates whether the data portion is modulated as *DBPSK* or *DQPSK*. Harris 4064.4 at FIG. 10, 14-16. Even if Harris 4064.4 were prior art (which it is not for the reasons set forth below in Section V), Harris 4064.4 adds nothing relevant to the patentability of claims 2 and 59 when compared to Boer, which discloses a preamble 216 and header 218 that always are sent using *DBPSK* and a data field 214 transmitted in *DBPSK*, *DQPSK*, or *PPM/QPSK*, and *SIGNAL* and *SERVICE* fields that indicate whether the data field 214 is modulated in *DBPSK*, *DQPSK*, or *PPM/QPSK*. Boer at FIG. 4, Abstract, 3:42-49, 3:56-62, 4:4-11, 6:5-21. *See also* Akl, at ¶¶ 57-

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<sup>6</sup> The APA considered by the PTAB is described in the '518 Institution Decision, at 7-8. It describes a master/slave communications system. Akl, at ¶ 47, note 1.

59. The DBPSK and DQPSK of Boer were previously considered as allegedly corresponding to the claimed “first modulation method” and “second modulation method,” respectively, and the SIGNAL and SERVICE fields of Boer were relied on as allegedly corresponding to the claimed “first sequence.” ‘518 Institution Decision, at 9-11. *See* Ak1, at ¶¶ 57-59 (comparing Harris 4064.4 with Boer).

Again, the Office does not mention either Harris Document in its discussion of an SNQ. Nevertheless, presuming the Office is relying on Harris AN9614 on for its disclosure of a “polled scheme” (Harris AN9614 at 3), as allegedly corresponding to or suggesting the claimed “master/slave relationship,”<sup>7</sup> (which it does not for the reasons given *infra* at § VI.A.3), and, even if Harris AN9614 were prior art (which it is not for the reasons given *infra* at § V.A-C), Harris AN9614 is no more relevant than the *express* disclosure of a master/slave relationship in the alleged Admitted Prior Art (“APA”) of a multipoint communication system including a master and tributaries, which was previously fully considered in a number of IPRs of the ‘580 Patent, including the ‘518 IPR, and relied upon as allegedly corresponding to the claimed “master/slave relationship.” *See, e.g.*, ‘518 IPR Institution Decision, at 17 (denying review of claims 2 and 59 based on the APA and Boer). *See* Ak1, at ¶¶ 60-62 (comparing Harris AN9614 with APA and Boer).

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<sup>7</sup> Moreover, to the extent the Office is drawing inferences from the disclosure of Harris AN9614 based on the ‘580 Patent’s disclosure (*e.g.*, that Harris AN9614’s “polled scheme” is equivalent to master/slave) are not well supported and incorrect, as explained *infra* at § VI.A.3. Ak1, at ¶¶ 112-120.

**D. Snell Does Not Support an SNQ Based on Anticipation**

In its Order, the Office did not indicate what statutory bases were implicated or what claim construction it was applying in its determination that Snell raised an SNQ. Given that the Office does not even discuss a number of the claim limitations in its Order, including for example, the master/slave limitations or the destination address limitation, one can only surmise that (1) the Office assumes these limitations are inherent in or obvious in view of Snell, and/or (2) the Office has construed the claims in such a way that many of the limitations have not been given patentable weight.

With respect to (1), Snell remains cumulative to Boer and is being considered in the same light as Boer was previously considered, as previously discussed, and thus cannot form the basis for an SNQ. Akl, at ¶¶ 47-54. With respect to (2), the question of whether the limitations of claims 2 and 59 should be accorded patentable weight *has already been decided* in the affirmative by the PTAB. Specifically, the Board construed claims 2 and 59 in a manner that *accorded patentable weight to all the limitations of the claims*. Given that the Board *instituted* a trial with respect to independent claims 1 and 58, but *denied* institution with respect to dependent claims 2 and 59, it necessarily follows that the Board accorded patentable weight to the additional limitations recited in claims 2 and 59. Moreover, a fair reading of the PTAB's Institution Decision and Final Written Decision in the '518 IPR demonstrates that *all* of the limitations of base claims 1 and 58 were also accorded patentable weight by the Board. *See* both the '518 Institution Decision and Final Written Decision *passim*. As explained by the Board in *Ex parte Hisamitsu Pharmaceutical Co., Inc.*, 2014 WL 955762, slip op. at 6 (PTAB 2014), such a "difference of opinion" on claim construction cannot raise a substantial new question:



While claim construction is a matter of law that is considered de novo and without deference, in our view, this principal does not supersede the limitation on revisiting a specific issue that was previously decided. On the record before us, the scope of the claims as including or excluding pores is simply not a new issue. The Tsubota reference is relied on for the same teachings as in the original prosecution. Only the determination as to the scope of the claims is different. That is, a mere difference in the opinions between the CRU Examiner and the original Examiner on the same question (whether the claims exclude the pores) does not raise a substantial new question ...

Thus, the Office cannot support an SNQ by attempting to construe the claims differently than did the PTAB. *See Ex parte Lam Research Corp.*, 2012 WL 1178196, at 5 (PTAB 2013) (holding that an argument already decided by the Office cannot raise a new question of patentability). *See also* the discussion regarding claim construction, *infra* at § III.A.

**E. The Office’s Determination That Snell Raises An SNQ Is Contrary To The Record and Congress’s Intent, And Thus Requires That This *Ex Parte* Reexamination Be Terminated**

Congress intended that the substantial new question standard be judiciously interpreted to prevent cases of abusive tactics and harassment of patentees through reexamination. *In re Swanson*, 540 F.3d 1368, 1380-1381 (Fed. Cir. 2008) (*citing* H. R. Rep. No. 107-120, at 3). Thus, an argument already decided by the Office cannot raise a new question of patentability. *Ex parte Lam Research Corp.*, 2012 WL 1178196, slip at 5 (PTAB 2013) (*citing Swanson*, 540 F.3d at 1380; MPEP § 2242 (no substantial new question of patentability if “the same question of patentability has already been decided as to the claim”).

The substantial new question requirement guards against repetition of issues and arguments that have been previously raised and overcome. *Lam*, at 5. Thus, the substantial new question standard clearly cannot be met by advancing a previously rejected interpretation of substantially the same teachings to reach a different conclusion as to obviousness. *See Ex parte*

*Muzzy Products Corp.*, 2010 WL 3448876, slip op. at 6 (BPAI 2010). *See also* MPEP § 2242 I.b. (“[T]he same question of patentability may have already been decided by the Office where the examiner finds the additional (newly provided) prior art patents or printed publications are merely cumulative to similar prior art already fully considered by the Office in an earlier concluded examination or review of the claim.”). Where, as here, a previously considered prior art *teaching* is being considered again for the same or similar purpose in reexamination, no substantial new question exists. *See Muzzy*, slip op. at 6.

For the reasons given above, Snell is *at best* cumulative of Boer and is being considered in the same way that Boer was considered in a number of IPRs of the ‘580 Patent, including the ‘518 IPR. Thus, nothing in Snell is sufficient to create an SNQ (even assuming incorporation by reference of the Harris Documents). The same is true of the other art included in the Office’s alleged SNQs. *See Akl*, at ¶¶ 63-70.

MPEP §2246 requires the Office to articulate in its Order its rationale supporting each SNQ. As stated in MPEP §2246:

In the examiner’s decision, the examiner must identify at least one substantial new question of patentability and explain how the prior art patents and/or printed publications raise such a question. The examiner should indicate, insofar as possible, his or her initial position on all the issues identified in the request or by the requester (without rejecting claims) so that comment thereon may be received in the patent owner’s statement and in the requester’s reply. (emphasis added).

In the present case, the Office discharged this requirement with a *singular* explanation that Snell *alone* supported its alleged SNQs by comparing the Snell disclosure to the claims (but not to previously considered art). Order, at 8-11. Thus, the Office’s reasoning that its alleged SNQs exist was based *solely* on its mistaken finding that Snell presents an SNQ. Significantly,

apart from recognizing that Snell, the Harris Documents, Kamerman, and Yamano had not been considered before (Order, at 4), the Office articulated no other basis for an SNQ, either in its Order or in its 3-31-17 Office Action.<sup>8</sup>

Where, as here, it is clear that the reasoning set forth in the reexamination Order is inadequate to support even a single SNQ, the reexamination proceedings should be terminated. In this respect, the Federal Circuit's decision in *In re Recreative Technologies Corp.*, 83 F.3d 1394 (Fed. Cir. 1996) is controlling. In that case, the Board attempted to "cure" a reexamination that should not have been granted in the first place by introducing a "new issue" at a later stage of the proceedings. In reversing the Board and finding that the reexamination should have been terminated, the Federal Circuit explained:

... this procedure by the Board can not overcome the fact that reexamination should not have been granted .... Thus even on the Commissioner's argument that a rejection on the same reference but styled as lack of novelty instead of obviousness is a "new ground"—an interesting question that we do not reach—the requirement of § 303 was not met. It would eviscerate the statutory safeguard to permit the Board to cure an improper reexamination with the creation of a new issue at the appellate stage of the reexamination proceeding.

*Id.* at 1398-99. As was the case in *Recreative Technologies*, the Office in the present reexamination cannot "cure" its deficient reasoning set forth in its Order by setting forth a "new" explanation later in the process as to how the references raise SNQs, as doing so would deprive Patent Owner of its due process right to fully address such action. Under such circumstances,

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<sup>8</sup> Again, neither the Order nor the 3-31-17 Office Action cites to or incorporates any part of the Request, except to merely identify the SNQs proposed by the Requestor, Order, at 8, and to provide certain claim term definitions, 3-31-17 Office Action, at 7.

where no SNQ exists, the Office lacks jurisdiction to proceed, and the present reexamination proceedings should be terminated.

**F. None of the Art Cited in the Order Raises An SNQ**

For the reasons given above, Snell and the Harris Documents are at best cumulative to the art previously and fully considered by the PTAB, *i.e.*, Boer and APA. *See supra*, at § II.A-C; Akl, at ¶¶ 47-62.

Kamerman also is cumulative of Boer. In fact, *Kamerman was Boer's co-inventor*,<sup>9</sup> and the rate control algorithm in Kamerman's presentation<sup>10</sup> (that aspect of Kamerman relied on in the 3-31-17 Office Action) was described in detail in the Boer patent. *See, e.g.*, Boer, col. 7, l. 12-col. 8. l. 16; Akl, at ¶¶ 64-68 (comparing Kamerman to Boer).

<sup>9</sup> A portion of the cover of the Boer (with highlighting) is reproduced below.

<p><b>United States Patent</b> [19]</p> <p><b>Boer et al.</b></p> <hr/> <p>[54] <b>MULTIRATE WIRELESS DATA COMMUNICATION SYSTEM</b></p> <p>[75] Inventors: <b>Jan Boer, Odijk, Wilhelms Josephus Diepstraten, Diessen, Adriaan Kamerman, Nieuwegein, Hendrik van Bokhorst, Nijkerk, Haas van Driest, Bilthoven, all of Netherlands</b></p> <p>[73] Assignee: <b>Lucent Technologies Inc., Murray Hill, N.J.</b></p> <p>[21] Appl. No.: <b>615,408</b></p> <p>[22] Filed: <b>Mar. 14, 1996</b></p>	<p>[11] <b>Patent Number: 5,706,428</b></p> <p>[45] <b>Date of Patent: Jan. 6, 1998</b></p> <hr/> <p>"Welcome to IEEE P802.11"; Working Group for Wireless Local Area Networks; Set-up on Dec. 17, 1996, update of May 20, 1997.</p> <p>"Bell Labs Unveils 10-Megabit Wireless-Network Technology, Offering Five Times Today's Highest Data-Transmission Capacity"; ICA New Product Announcement, Apr. 22, 1997.</p> <p><i>Primary Examiner</i>—James P. Trammell  <i>Assistant Examiner</i>—Shah Kamini  <i>Attorney, Agent, or Firm</i>—Christopher N. Malvone</p> <p>[57] <b>ABSTRACT</b></p>
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<sup>10</sup> It appears Kamerman was permitted to talk about the invention disclosed in the Boer patent once the application was filed. Such a procedure is typical with companies, particularly large companies like Lucent Technologies (assignee of the Boer patent and Kamerman's employer). *See Akl*, at ¶ 64, note 5.

The Yamano disclosure of a destination address (that aspect of Yamano relied on in the 3-31-17 Office Action is at best cumulative<sup>11</sup> of the disclosure in Boer of a destination address in the data field 214 of a message 200. That portion of Boer was considered in IPR2015-00518 as allegedly disclosing addressing a group of transmission sequences for an intended destination of the payload portion. Petition in IPR2014-00514 at 23 (citing Boer at 6:28-31). Thus, Yamano adds nothing to Boer's teachings with respect to claims 2 and 59 of the '580 Patent.<sup>12</sup> See Akl, at ¶¶ 69-70 (comparing the Yamano disclosure to that in Boer and Siwiak (a reference considered during prosecution of the '580 Patent).

Because the art identified in the alleged SNQs is cumulative to that previously considered and is being presented in the same light (based on the Order and 3-31-17 Office Action), even if the Office were to try to bolster its reasoning in an attempt to support an SNQ, such as exercise would be futile. Thus, the reexamination should be terminated as improvidently ordered.

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<sup>11</sup> The term "at best" is used because, *inter alia*, the combination of Snell and Yamano requires some motivation to combine the two references, while having the destination address in the *same* reference, i.e., Boer, does not.

<sup>12</sup> The fact that the destination address of Yamano is in the preamble while the destination address of Boer is in the data field is not relevant to claims 2 and 59, which do not require a destination address in any particular portion of the "group of transmission sequences" (claim 2) or "message" (claim 59). In any case, such a disclosure was already before the Office in Siwiak. See Akl, at ¶ 69, note 7.

### **III. Broadest Reasonable Interpretation of Claims 2 and 59**

During reexamination of an unexpired patent, the Office applies the broadest reasonable construction when determining the meaning of claim terms. MPEP § 2111. That is not to say, however, that the Office may construe claims so broadly that its constructions are *unreasonable* under general claim construction principles.<sup>13</sup> *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015). Even under the broadest reasonable interpretation, the Office’s construction “cannot be divorced from the specification and the record evidence.” *Id.* A construction that is “unreasonably broad” and which does not “reasonably reflect the plain language and disclosure” will not pass muster. *Id.*

To support its § 102(e) rejection, the Office relies on a claim construction that ignores substantially all of the claim limitations contrary to what was done by the PTAB in the multiple IPRs (now concluded favorably to Patent Owner with respect to claims 2 and 59) and contrary to the district court construction (now affirmed by the Federal Circuit). Neither the PTAB nor the

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<sup>13</sup> The Examiner asserts that the claims being reexamined “are single means claims” (3-31-17 Office Action, at 6), which would render them *indefinite* because a “single means” claim covers *every conceivable means* for achieving the desired result. *Ex parte David Chater-Lea*, 2010 WL 665664 (BPAI 2010). If the Office’s view is that claims are indefinite, no prior art rejection can be issued (and hence reexamination on the basis of patents and printed publications cannot proceed), as doing so would necessarily be based on a speculative assumption as to the meaning of the claims. *See Google, Inc. v. Function Media, L.L.C.*, 2012 WL 1891077 (BPAI 2012); *Ex parte Webexchange Inc.*, 2014 WL 2946395 (PTAB 2014); and *Superior Communications, Inc., v. Voltstar Technologies, Inc.*, 2014 WL 5474770 (PTAB 2014). Rembrandt disputes that claims 2 and 59 of the ‘580 Patent are “single means” claims, or indefinite, as such a construction is clearly unreasonable. However, under the decisions set forth above, if the Examiner maintains her view that the claims are single means claims (tantamount to an improper indefiniteness rejection), she cannot issue a prior art rejection and these reexamination proceedings must be terminated.

court ignored the master/slave limitations in the claims and neither determined that the claims were “single means” claims, as now alleged by the Office. *See* 3-31-17 Office Action at 6-11. The Office does not explain why its positions are different than those of the PTAB or the district court, contrary to MPEP § 2258 I.G. (quoted *infra* § III.A, note 13).

As a specific example regarding the Office’s failure to properly analyze the meaning of the claim terms, the Office concluded that it was “unable to locate any lexicographic definitions with reasonable clarity, deliberateness, and precision.” 3-31-17 Office Action at 4. In fact, the district court drew just the opposite conclusion with respect to the meaning of “modulation method [] of a different type” based on the prosecution history. The Federal Circuit affirmed the district court’s claim construction as follows:

Samsung disputes the district court’s construction of “modulation method [] of a different type.” The district court construed this limitation as “different families of modulation techniques, such as the FSK [frequency-shift keying] family of modulation methods and the QAM [quadrature amplitude modulation] family of modulation methods.” Claim Construction Order, 2014 WL 3385125, at \*15.

....

Here, *the clearest statement in the intrinsic record regarding the meaning of the “different types” limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims.*

*Rembrandt Wireless Tech. v. Samsung Elec. Co.*, No. 16-1729, at 7 (Fed. Cir. April 17, 2017) (rehearing denied) (emphasis added). In view of the Federal Circuit’s determination, the Office’s present claim construction in this reexamination cannot stand. *See infra* at § V.A-C (“Broadest Reasonable Interpretation of Claims 2 and 59”); Akl, at ¶¶ 18-27.

**A. According No Patentable Weight To Most Of The Claim Limitations Is An Unreasonable Claim Construction**

In several parentheticals, and without citation to any authority, the Office asserts that all of the limitations after “for” (in claim 2) and after “capable” (in claim 59) “do not further limit the structure of the transceiver” and are “not given patentable weight.” 3-31-17 Office Action, at 10-11. Based on this analysis, the Office goes on to assert that the claims are met by *any transceiver capable of functioning as a master*. Simply put, this claim construction is completely divorced from the specification, and unreasonably broad. It is also completely at odds with the PTAB’s institution decision in IPR2014-00518, which accorded *all* limitations of the claims patentable weight, and found that the additional limitations in dependent claims 2 and 59 were *decisive* in distinguishing those claims over the cited references. The Office fails to even acknowledge the PTAB’s findings that accord all limitations patentable weight, let alone supply reasoning to support a different interpretation.<sup>14</sup> See 3-31-17 Office Action *passim*.

The failure to accord patentable weight to virtually all of the claim limitations on the ground that they are “functional,” is also divorced from numerous decisions from the Office

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<sup>14</sup> The 3-31-17 Office Action also is inconsistent with the district court’s construction which, like the PTAB’s, accorded patentable weight to all the claim limitations. See *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, No. 2016-1729 (April 17, 2017); Claim Construction Order in *Rembrandt Wireless Tech. v. Samsung Elec. Co.* (Exhibit C). See also MPEP 2258 I.G. (“Where there is related litigation and a federal court has made a judicial interpretation of a disputed claim term, the examiner in treating the disputed claim term should set forth his or her reasoning by, for example, acknowledging the judicial interpretation and assessing whether the judicial interpretation is consistent with the broadest reasonable construction of the term. Moreover, if adopting a different claim construction than the judicial interpretation, the examiner should supply reasoning to support the different interpretation.”).



interpreting the meaning of “configured to” in similar claims. In this regard, both claims 2 and 59 of the ’580 Patent specify as follows:

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. (emphasis added).

The law is clear and well settled that where, as here, the term “configured to” is used to describe programming or structure required to perform a specified function, it cannot be ignored by the Examiner when applying the prior art. In *Ex parte Hosoi*, faced with similar claim language, the Board reasoned as follows:

... the Examiner repeatedly dismisses all of the claim limitations that begin with “configured to” as “intended use and therefore carries no patentable weight.” We disagree. To the extent that the Examiner’s position is that these claims recite only general purpose control unit(s) as the claimed control units, determining unit, etc., the Examiner’s position is untenable. Although it is well established that claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, in order to satisfy the functional limitations in an apparatus claim, however, the prior art apparatus must be capable of performing the claimed function. As such, to be capable of performing the functional limitations in claim 1, the control units or comparable structure must possess the necessary structure, that is, programming, to function as claimed. (emphasis added)(citations omitted).

2012 WL 889723, slip op. at 3 (BPAI 2012) (citing *In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997). See also *Ex parte Hider*, 2016 WL 6216592, slip op at 3 (PTAB 2016)(rejecting Examiner’s position that limitations reciting structure “configured to” send data are non-limiting statements of intended use); *Ex parte Heyman*, 2016 WL 7487206, slip op. at 5 (PTAB 2016) (citing *Typhoon Touch Techs. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011) (Board rejecting Examiner’s position that functional recitations using “for,” “configured to” or “operable” are intended use language entitled to no patentable weight); *Ex parte Eckardt*, 2016

WL 827260, slip op. at 2 (PTAB 2016) (citing *K-2 Corp. v. Solomon SA*, 191 F.3d 1356, 1363 (Fed. Cir. 1999) (Board rejecting Examiner's position "that the 'configured to' language in the claim is a recitation of intended use that does not patentably distinguish the claimed invention from the prior art").

In *Ex parte Black*, 2007 WL 4178434 (BPAI 2007), the Board explained why limitations describing a device as "configured to" perform certain functions cannot be ignored. Specifically, in rejecting the Examiner's finding that such limitations could be dismissed as "intended uses," the Board stated:

The Examiner alleges that Santini '838 teaches all of the limitations of claim 8. The Examiner errs, however, in reading "configured to" as "capable of," *i.e.*, the Examiner reads it as merely being limited to intended use. Specifically, according to the Examiner:

With respect to the recitations ... "configured to release", "configured to activate" and "configured to sense" these recitations are intended use of the circuit ... If the prior art structure is capable of performing the intended use, then it meets the claim. Therefore, Santini ... reads on the instantly recited claims.

"Configure," however, is defined as to "design, arrange, set up, or shape with a view to specific applications or uses." That definition is consistent with the case law cited by Appellants to support their assertion that "a processor that is programmed to provide a particular function is structurally different than other processor circuits that are programmed to provide a different function."

*Ex parte Black*, 2007 WL 4178434, slip op. at 2 (BPAI 2007). *See also Ex parte Kumar*, 2015 WL 729625, slip op. at 3 (PTAB 2015)(rejecting Examiner's reasoning that "configured to" expressions in the claims could be met by any device "capable of being adapted to provide the recited function," noting that a "programmed machine is structurally different from a machine without that program"); *Ex parte Hahn-Carlson*, 2013 WL 5402246, slip op. at 1 (PTAB 2013)(rejecting Examiner's determination that "configured and arranged to" language should not

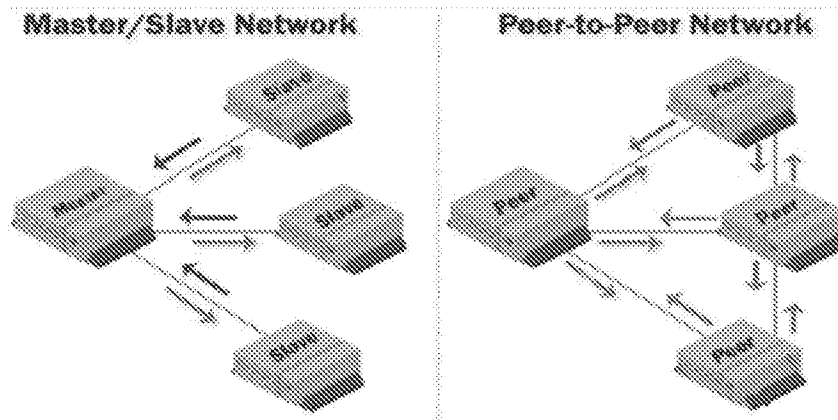
be given patentable weight because it “imparts functional characteristics to the underlying processor structure, and thus are not intended use.”); *Ex parte Stahl*, 2012 WL 177838, slip op. at 2 (BPAI 2012)(“A computing unit that is *configured to* perform the steps recited in claim 17 is structurally different from a computing unit that is not configured or otherwise set up to perform the recited steps. Thus, the claim language at issue is not merely an intended use but rather imparts structure to the claimed apparatus.”); *Ex parte Hodsdon*, 2009 WL 383716, slip op. at 2 (BPAI 2009) (rejecting Examiner’s finding that a computer “configured to” perform a certain function is merely a statement of intended use which need not be given patentable weight).

Simply put, the Office’s position that most of the limitations of the challenged claims can be ignored as “intended uses,” and that the claims are met by *any transceiver functioning as a master*, is contrary to the law and at odds with the analysis of the PTAB in IPR2014-00518 (and that of the district court in *Rembrandt Wireless Tech. v. Samsung Elec. Co*). The limitations of the challenged claims that have been dismissed as “intended uses” cannot be ignored. In addition, such limitations can only be met by prior art that is programmed or otherwise set up to perform the functions specified by such limitations.

**B. The Broadest Reasonable Interpretation of “Master/Slave”**

The claim term “master/slave” should be given its plain and ordinary meaning as one skilled in the art would have understood it in the context of the ‘580 Patent. In the field of data communications, the electrical devices can be arranged in various network configurations. The ‘580 Patent and its claims are directed to a network historically-referred to in the computer industry as a *master/slave* network because one centralized “master” device controls all network communications with the other subordinate “slave” or “tributary” devices. The slave devices do

not directly communicate with one another, but instead only communicate with the master. This is very different from a *peer-to-peer* network, in which network control is distributed amongst the devices in the network and each device communicates directly with its peers:



Persons of ordinary skill at the relevant time would have recognized that the plain and ordinary meaning of a “master” is “a device which controls all communications with other devices (*i.e.*, slaves) in a network” and the plain and ordinary meaning of a “slave” is “a device whose network communications are controlled by a master.” Ak1, at ¶ 21. That is the way “master/slave” is used in the specification of the ‘580 Patent. For example, the device disclosed in the ‘580 Patent includes “a transceiver capable of acting as a master according to a master/slave relationship in which communication from a slave to a master occurs in response to communication from the master to the slave.” ‘580 Patent at Abstract. “[A] master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.” *Id.* at 4:7-9. Similarly, the Summary of the Invention section of the ‘580 Patent states:

a device may be capable of communicating according to a master/slave relationship in which *a communication from a slave to a master occurs in response to a communication from the master to the slave.* The device may

include a transceiver in the role of the master for sending transmissions modulated using at least two types of modulation methods, for example a first modulation method and a second modulation method. [*Id.* at 2:24-29 (emphasis added).]

This definition is supported by numerous technical sources. For example, the IEEE Wireless Dictionary states:

“master: In the context of wireless protocols, this refers to a device that controls the operation of a network. ...”

“slave: In the context of wireless protocols, a device that is dependent on another device for control, usually called the master. ...”

*E.g.*, IEEE Wireless Dictionary at 55, 80; *see also* Comprehensive Dictionary of Electrical Engineering (1999) at 397 (“master: the system component responsible for controlling a number of others (called slaves).”); Modern Dictionary of Electronics (1997) at 932 (“slave: a component in a system that does not act independently, but only under the control of other similar components.”). *Akl*, at ¶ 23.

Understanding the claimed master/slave configuration is key to understanding the problem Gordon Bremer identified and solved. The Summary section of the ‘580 Patent states:

The *present invention* disclosed herein includes communication systems, devices, and methods. For example, a device may be capable of communicating according to a *master/slave relationship* in which a communication from a *slave* to a *master* occurs in response to a communication from the *master* to the *slave*. The device may include a transceiver in the role of the *master* for sending transmissions modulated using at least two types of modulation methods, for example a first modulation method and a second modulation method. The first modulation method may be of a different type than the second modulation method. [‘580 Patent at 2:24-33 (emphasis added).]

Indeed, the ‘580 Patent uses the term “master” 94 times, the term “slave” 24 times, and the term “trib” 89 times. Further, the master/slave configuration is explicitly recited in claims 2

and 59. *E.g.*, ‘580 claim 1 (from which claim 2 depends) (“a communication device capable of communicating according to a *master/slave relationship*....”) (emphasis added). Persons of ordinary skill would have recognized from the above disclosures that the claimed master/slave configuration is an important part of claims 2 and 59. Akl, at ¶ 25.

**C. The Federal Circuit Has Determined That The Prosecution History Of The ‘580 Patent Unambiguously Defines Modulation Methods Of “A Different Type” To Mean Different Families Of Modulation Methods**

In *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, No. 2016-1729 (April 17, 2017), the Federal Circuit analyzed the prosecution history of the ‘580 Patent, and confirmed that it includes an *unambiguous* statement that defines “different types of modulation methods” as “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” Slip op. at 9. The Federal Circuit reasoned as follows:

During prosecution of the ‘580 parent patent, the applicant inserted the “different types” limitation into its claims after the examiner had already issued a notice of allowance. In the applicant’s contemporaneous remarks to the examiner, he indicated that he inserted the limitation into the independent claims to “more precisely claim the subject matter.” The applicant explained:

Applicant has further amended [its] claims . . . with additional recitations to more precisely claim the subject matter. For example, the language of independent claim 1 has been clarified to refer to two *types* of modulation methods, *i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.*

... Samsung contends that the plain claim language requires only that the different types of modulation methods be “incompatible” with one another. According to Samsung, the claims cover devices that modulate signals using the same family of modulation methods (for example, FSK modulation), but operating with different amplitudes between modems. Samsung asserts that, because modulating using different amplitudes makes the devices incompatible, this arrangement embodies “different types” of modulation.

We disagree with Samsung and adopt the construction entered by the district court. Here, the *clearest statement in the intrinsic record regarding the meaning of the “different types” limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not diminish this unambiguous statement in the prosecution history.*

For example, Samsung avers that we should not give the prosecution history statement definitional weight because it uses the phrase “i.e.,” which Samsung argues introduces an exemplary item in a set. A patentee’s use of “i.e.,” in the intrinsic record, however, is often definitional. Indeed, the term “i.e.” is Latin for *id est*, which means “that is.” ... The context here strongly supports the conclusion that Rembrandt used “i.e.” to define the “different types” limitation  
....

\* \* \*

We therefore agree with the construction entered by the district court that the term “modulation method [] of a different type” means “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” [Slip op. at 9 (emphasis added; citations omitted).]

The 3-31-17 Office Action does not acknowledge (let alone analyze) applicant’s unambiguous remarks in the prosecution history defining “different types” of modulation methods. Instead, it simply states:

After careful review of the original specification, the prosecution history, and unless expressly noted otherwise by the Examiner below,<sup>15</sup> the Examiner finds that she is unable to locate any lexicographic definitions (either express or implied) with reasonable clarity, deliberateness, and precision. Because the Examiner is unable to locate any lexicographic definitions with reasonable clarity, deliberateness, and precision, the Examiner concludes that Applicants are not their own lexicographer. [3-31-17 Office Action, at 4 (emphasis added).]

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<sup>15</sup> No lexicographic definitions were identified later in the 3-31-17 Office Action.

To the extent the Examiner’s conclusion that “Applicants are not their own lexicographer” was based on her belief that applicant’s definitional statement in the prosecution history lacked “*reasonable clarity, deliberateness, and precision,*” the Examiner’s reasoning cannot stand, as it is squarely at odds with the Federal Circuit’s determination that Rembrandt *unambiguously defined* the “different types” limitation in the prosecution history. As explained below, and in light of the Federal Circuit’s opinion, the *only reasonable* construction of “different types” is the one Rembrandt explicitly set forth in the prosecution history. Akl, at ¶¶ 20.

**1. The Prosecution History Defined “Different Types”**

The original claims of the ‘580 Patent required a first modulation method that was “different” from a second modulation method, but did not require “different *types*” of modulation methods. For example, claim 1 required in material part:

1. A communication system, comprising:  
a transmitter capable of transmitting at least two modulation methods, wherein the at least two modulation methods comprise a first modulation method and a second modulation, wherein the second method is *different* than the first modulation method, ...

US Application Serial No. 12/543,910, Claim 1 (emphasis added).

In the first Office Action, a number of claims were allowed, including Claim 1 and its dependent claims. A significant number of other claims were rejected under §§ 102 and 103 based on U.S. Patent No. 5,537,398 to Siwiak (“Siwiak”). Siwiak disclosed a messaging system for a plurality of geographically distributed transmitters designed to transmit in a first modulation format, such as FM (frequency modulation) during a first transmission portion, and in a second modulation format, such as OFDM (orthogonal frequency division multiplexing),



during a second transmission portion. *See* Siwiak Abstract. In response, many of the claims were amended to further distance them from Siwiak. The amendments to claim 1 (shown below) are illustrative of the amendments made to further distance the claims from Siwiak:

1. (Currently Amended) A communication ~~system~~ device capable of communicating according to a **master/slave** relationship in which a slave communication from a slave to a master occurs in response to a master communication from the **master to the slave**, the device comprising:

a **transceiver**, in the role of the master according to the master/slave relationship, for sending at least ~~transmitter capable of transmitting~~ transmissions modulated using at least two **types of** modulation methods, wherein the at least two **types of** modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different **type** than the first modulation method, and wherein the ~~first transceiver is configured to transmit~~ transmissions comprise groups of transmission sequences, each group of said groups of transmission sequences structured with a first portion and a payload portion wherein first information in **the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion**, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence ~~that~~ indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence, ~~is~~ modulated according to the second modulation method, wherein the second sequence is transmitted after the first ~~data~~ sequence. [March 1, 2011 Reply at 2 (emphasis added).]

Specifically, the narrowing amendments to Claim 1 fall into three general categories: (i) the claim was amended to require that the first and second modulation methods were “of different types” of modulation, rather than merely requiring that the modulations were “different;” (ii) the communication system and transceiver were narrowed to require a

master/slave relationship; and (iii) the claim was amended to specifically require that the indication of an impending modulation change was located in the first portion of the transmission sequence. Each of these amendments further distinguished the claim from Siwiak. In conjunction with this amendment, the applicant made clear its intention, stating it was adding additional limitations “to more precisely claim the subject matter”:

Applicant thanks Examiner Ha for the indication that claims 1-18, and 37-57 are allowed (office action, p. 7). Applicant has further amended claims 1-2, 9-15, 18, 37-38, and 45-46 with additional recitations to more precisely claim the subject-matter. For example, the language of independent claim 1 has been clarified to refer to two types of modulation methods, i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods. [March 1, 2011 Reply at 20 (emphasis added).]

This prosecution history statement from the original ‘580 prosecution clearly reflects a narrowing of the claims to require two different *types* of modulation methods, and further clarified that “different types of modulation methods” refers to “different families of modulation techniques” in a definitional *i.e.* statement. Akl, at ¶ 20.

## **2. Under The Broadest Reasonable Construction, A Definition Governs If It Is Set Forth In The Prosecution History**

As the Federal Circuit has explained, as part of its determination of the broadest reasonable construction, “[t]he PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.” *Microsoft Corp.*, 789 F.3d at 1298; *see also Straight Path IP Group, Inc. v. Snipet EU S.R.O.*, 806 F.3d 1356, 1262 (Fed. Cir. 2015)(stating that prosecution history “is to be consulted even in determining a claim’s broadest reasonable interpretation”); *Mylan Pharamceuticals v. Yeda Research & Development*, 2015 WL 5169139 (PTAB 2015)(noting that the Federal Circuit

“instructed that we should “also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review,” and agreeing “with Patent Owner that, during prosecution, the applicant clearly disavowed” certain claim scope); *Google v. Motorola Mobility*, 2105 WL 4976582 (PTAB 2015)(“[s]ince Patent Owner filed its Response and Petitioners filed their Reply, the Federal Circuit has admonished that “[t]he PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review” (citing *Microsoft Corp.*, 789 F.3d at 1298)).

Moreover, under the broadest reasonable construction, where the patentee sets forth a definition in either the specification *or* prosecution history, that definition governs. *Cisco Systems, Inc. v. AIP Acquisition, LLC*, 2014 WL 2364452, at \*6 (PTAB May 27, 2014); *accord Advanced Fiber Techs. Trust v. J&L Fiber Servs.*, 674 F.3d 1365, 1374 (Fed. Cir. 2012). The Federal Circuit has repeatedly held that an inventor can act as his own lexicographer if he uses a “special definition of the term [that] is clearly stated in the patent specification or file history.” *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Further, in *Abbott Labs. v. Novopharm Ltd.*, 323 F.3d 1324 (Fed. Cir. 2003), the Federal Circuit held that a patent specification’s use of the letters “i.e.” (Latin for “that is”) in conjunction with a claim term typically connotes a binding definition. *Id.* at 1330. In *Abbott*, the patentee argued for a definition that was different than it had given in an “i.e.” parenthetical in the specification, while the accused infringer argued that the “i.e.” definition was controlling. The Court held that “i.e.” defined the claim term “co-micronization,” which was “in fact explicitly defined at column 1, lines 35-38, of the ’726 patent.” *Id.*

Given the Federal Circuit’s analysis of the prosecution history of the ‘580 Patent, there can no longer be any serious dispute that Rembrandt’s use of “i.e.” in the prosecution history of the ‘580 Patent was indeed definitional and clear. Akl, at ¶ 20.

**3. A Construction That Equates “Different Modulation Methods” With “Different *Types* Of Modulation Methods” Is Unreasonably Broad Because It Reads “Types” Out of The Claims**

The claims themselves make it apparent that the inclusion of the word “*types*” was purposeful and must be given meaning. The requirement that the first and second modulation methods constitute “different types” of modulation methods appears in independent claims 1 and 58, but not in other ‘580 claims. Independent Claim 40, by way of contrast, requires only “a second modulation method that is different than the first modulation method.” Thus, claim 40 only specifies that the first modulation method and the second modulation are “different,” whereas claims 1 and 59 require that the first and second modulation methods are “of different types.” Thus, “different types” must mean something more than that the modulation methods are “different” in some respect. Akl, at ¶ 20.

Moreover, a construction that ignores or gives no weight to claim terms is improper. *PPC Broadband, Inc. v Corning Optical Communications RF, LLC*, 815 F.3d 734, 744 (Fed. Cir. 2016 (claims expressly require that “continuity member ... *maintains* a continuous electrical connection,” which the Board declined to require in its treatment of claims) (emphasis in original); *In re Buszard*, 504 F.3d 1364, 1367 (Fed. Cir. 2007) (claims specifically require “a *flexible* polyurethane foam reaction mixture” which cannot be broadly construed to cover a rigid foam reaction mixture) (emphasis added). If “different types of modulation methods” is construed the same as “different modulation methods,” then the word “type” has not been given

any weight. To the extent that the Examiner's "incompatible"<sup>16</sup> construction equates "different types" of modulation methods with modulation methods that are simply "different," it is legally improper.

**4. Differences Between The BRI And *Philips* Are Irrelevant To Whether The '580 Prosecution History Unambiguously Defines "Different Types"**

While there may be differences between the broadest reasonable construction ("BRI") standard applied by the Office, and the *Philips* standard applied in infringement cases, those differences do not impact the claim construction analysis with respect to "different types." More specifically, where, as here, an applicant unambiguously defines a claim limitation in the intrinsic record, that definition governs *regardless* of whether the claim is being interpreted under the BRI or *Philips*. In addition, it would make no sense for the Office to argue that whether a particular definition is or is not ambiguous differs depending on whether one is applying the BRI or *Philips*. In this respect, ambiguity (or the lack thereof) is binary: Something either "is" or "is not" ambiguous, there is no in between.

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<sup>16</sup> In advancing its "incompatible" construction, the Office has not defined "incompatible" nor explained whether it means anything other than "different." In any case, there is no evidence that the cited references disclose or were addressing incompatible modulation methods, as that term is used in the '580 Patent. In that context, first and second modulation methods are incompatible when one modem using the first method cannot communicate with a second modem using the second method. *See* the '580 Patent, col. 1, ll. 45-65. Importantly, "incompatible" as used in the '580 Patent cannot be considered in a vacuum but must be considered in the context in which it is used. *See infra* at § III.C; Ak1, at ¶ 26.

**5. The Office's Construction Of "Different Types" Cannot Be Justified By The PTAB's Final Written Decision In The '518 IPR**

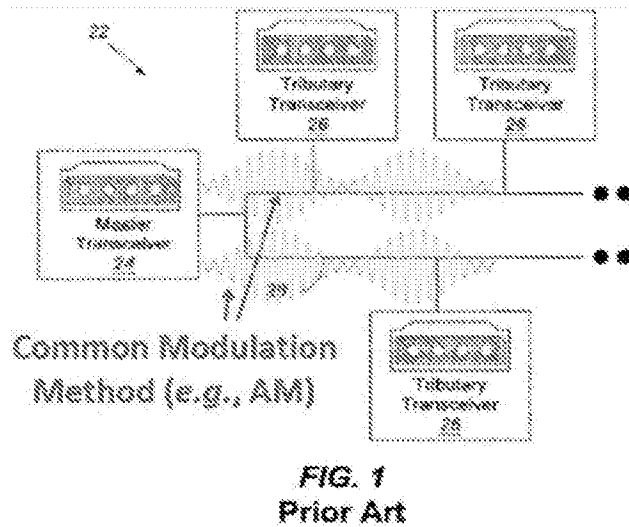
The Office's claim construction cannot be justified based on the PTAB's Final Written decision in the '518 IPR. When the PTAB issued its Final Written Decision in the '518 IPR, it did not have the benefit of the Federal Circuit's decision regarding the construction of the '580 Patent claims. In addition, the PTAB's findings that "Patent Owner's purported 'definition' is *anything but clear or precise*" (Final Decision, at 8) and that the "prosecution history is, *at best ambiguous*" (Final Decision, at 9) cannot be squared with the Federal Circuit's conclusion that the patent applicant *unambiguously* defined the "different types" limitation in the prosecution history. On the legal question of whether the definition of "different types" set forth in the prosecution history is or is not ambiguous, the PTAB's decision in the '518 IPR has been superseded and effectively has been overruled by the Federal Circuit.

For these reasons, and in light of the Federal Circuit's opinion construing the claims of the '580 Patent, Rembrandt respectfully submits that the *only reasonable* construction of "different types" of modulation methods is the one Rembrandt explicitly set forth in the prosecution history namely, "different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods." *See* Akl, at ¶¶ 20. Based on this construction alone, all the rejections in the 3-31-17 Office Action must be withdrawn because none of the cited art discloses two types of modulation methods. *See* the discussion *infra* at § VI.B; Akl, at ¶¶ 121-130.

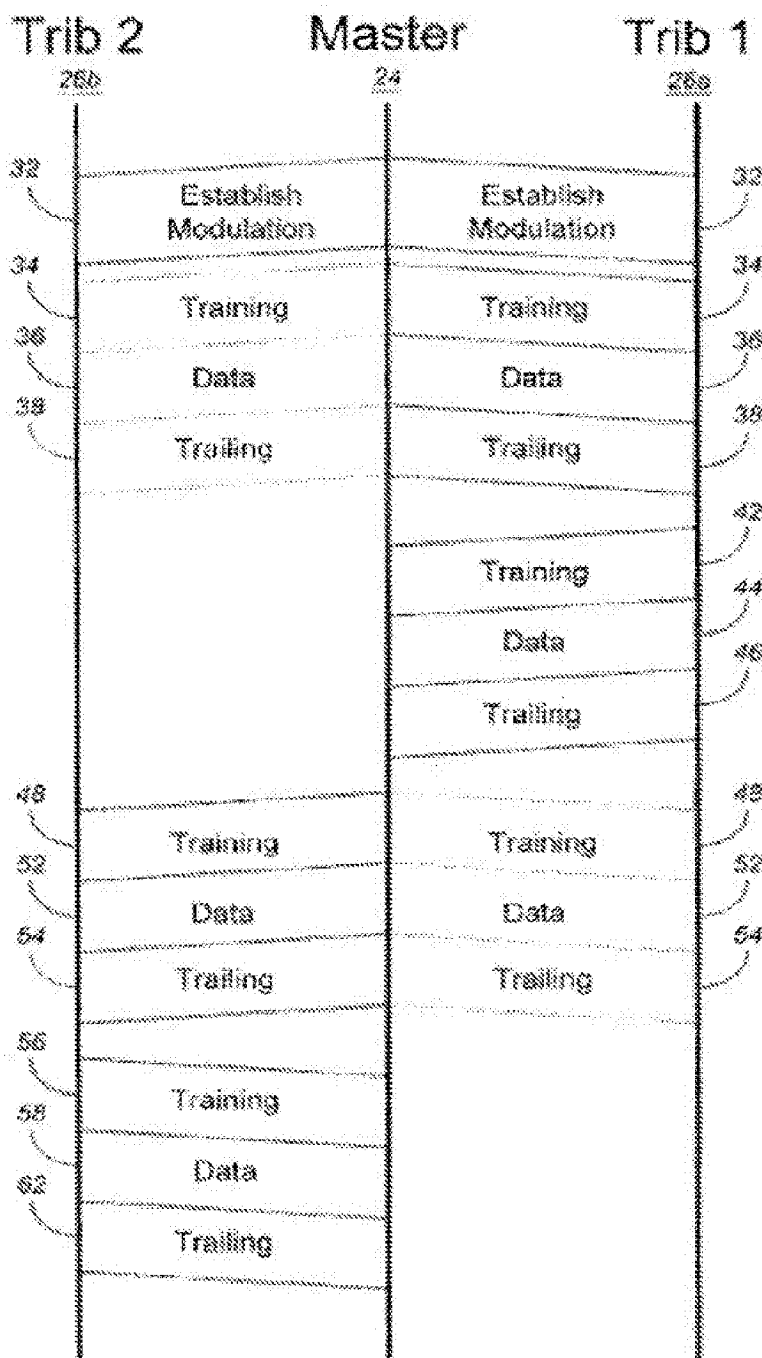
**IV. Description of the Invention Disclosed and Claimed in the '580 Patent**

**A. A Brief Explanation of the State of Master/Slave Art Prior to the '580 Invention**

According to the '580 Patent, prior art master/slave systems could only communicate when all network devices used a single common type of modulation method. *See* '580 Patent at 1:27-65, 3:40-48. Thus, if a slave using an additional type of modulation method were added to the network, the new slave could not easily communicate with the master using the different modulation type because it would not be compatible with the common type of modulation method. *Id.* Annotated figure 1 of the patents shows such a prior art master/slave system, where all devices in the network communicate using only a single common type of modulation method (such as the amplitude modulation used by AM radio), even though some of the devices may be capable of communication via other types of modulation methods:



The state of master/slave art prior to the '580 invention is described in the '580 Patent at col. 3, l. 40-col. 4, l. 50, with reference to Fig. 2. *Akl*, at ¶¶ 78-80.



**FIG. 2**

Briefly, Fig. 2 discloses a polled multipoint master/slave system. At the beginning of a session, the master established a common modulation type for communication with all its slaves



(32 in Fig. 2). All slaves were identical in that they shared a common modulation with the master.

The master then communicated with its slaves, one at a time, by sending a training sequence with the address of the slave with which it wants to communicate, followed by data, and finally a trailing sequence to end the communication. (34-38 in Fig. 2) A slave could not initiate a communication, but, if the slave were polled by the master, it could respond to the master in a similar fashion. (42-46 in Fig. 2) When the master had completed its communications with the first slave, it could then communicate with a second slave using the *same* negotiated common modulation (48-54 in Fig. 2). Ak1, at ¶ 80.

#### **B. The Problem Identified in the '580 Patent**

Again, with reference to FIG. 2, the problem Gordon Bremer both identifies and addresses in his detailed description is as follows:

Consider the circumstance in which master transceiver 24 and trib 26b share a common modulation type A while trib 26a uses a second modulation type B. When master transceiver attempts to establish A as a common modulation during sequence 32, trib 26a will not be able to understand that communication. Moreover, trib 26a will not recognize its own address during training interval 34 and will therefore ignore data 36 and trailing sequence 38. Master transceiver 24 may time out waiting for a response from trib 26a because trib 26a will never transmit training sequence 42, data 44, and trailing sequence 46 due to the failure of trib 26a to recognize the communication request (training sequence 34) from master transceiver 24. Thus, if the tribs in a multipoint communication system use a plurality of modulation methods, the overall communication efficiency will be disrupted as specific tribs will be unable to decipher certain transmissions from the master transceiver and any unilateral transmission by a trib that has not been addressed by the master transceiver will violate the multipoint protocol. [col. 4, l. 55-col. 5, l. 6]

Summarizing the incompatibility problem Gordon Bremer identified:

- a) If the master in the APA wanted to communicate with a slave using a second modulation method that was incompatible with that used to communicate with its other slaves, it was necessary to tear down the session and begin a new session. Doing so was disruptive.
- b) If the APA master attempted to communicate using an incompatible modulation type without beginning a new session, the other slaves would not understand the attempted communications and would not respond to any polling directed at them, resulting in repeated attempts by the Master to communicate. In addition, the slaves may be confused by the transmissions and make improper communication attempts.

One of ordinary skill in the relevant art would have understood that FIG. 2 and its description do not disclose or suggest the incompatibility problem identified by Gordon Bremer, or even the goal of using incompatible modulations in one master/slave session. Akl, at ¶¶ 81-83.

**C. The '580 Solution to These Incompatibility Problems in a Master/Slave Setting**

In the context of the master/slave system described above, Gordon Bremer invented “a system and method of communication in which multiple modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been incompatible” (col. 2, ll. 17-20). Mr. Bremer solved the above-described incompatibility problem with his claimed master/slave communication system in which slaves can seamlessly communicate over a network through a master using multiple types of modulation methods, thereby permitting selection of the modulation type best suited for a particular application (col. 1, l. 66- col. 2, l. 33). Akl, at ¶ 84.

The claimed invention of the '580 Patent is further described with reference to Figure 2 and in Figures 3-8 and the written description. Specifically, Figures 3 and 4 show block diagrams

of the master transceiver and tributary transceivers, while Figure 5 shows a ladder diagram illustrating the operation of those transceivers. Figures 6 and 7 show state diagrams for exemplary tributary transceivers. And Figure 8 shows a signal diagram for exemplary transmissions. Akl, at ¶ 85.

Annotated FIG. 4 shows an embodiment of the patented technology where some devices in the network communicate using one type of modulation method (*e.g.*, amplitude modulation used by AM radio), while other devices communicate using a different type of modulation method (*e.g.*, the frequency modulation used by FM radio):

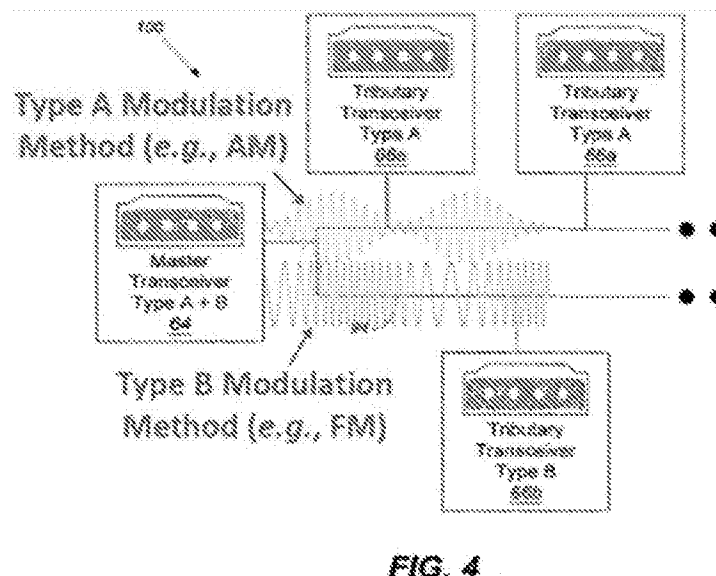
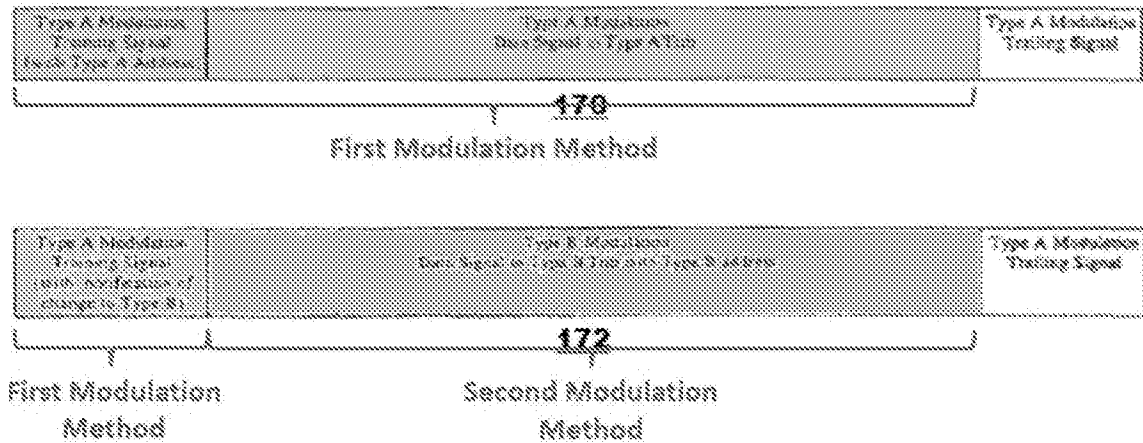


FIG. 4

Col. 5, ll. 47-56. Such a system provides for greater efficiency, seamless communication with all devices, backward-compatibility, and decreased costs. Col. 2, ll. 50-57; *see also* col. 1, l. 66-col. 2, l. 15. Akl, at ¶ 86.

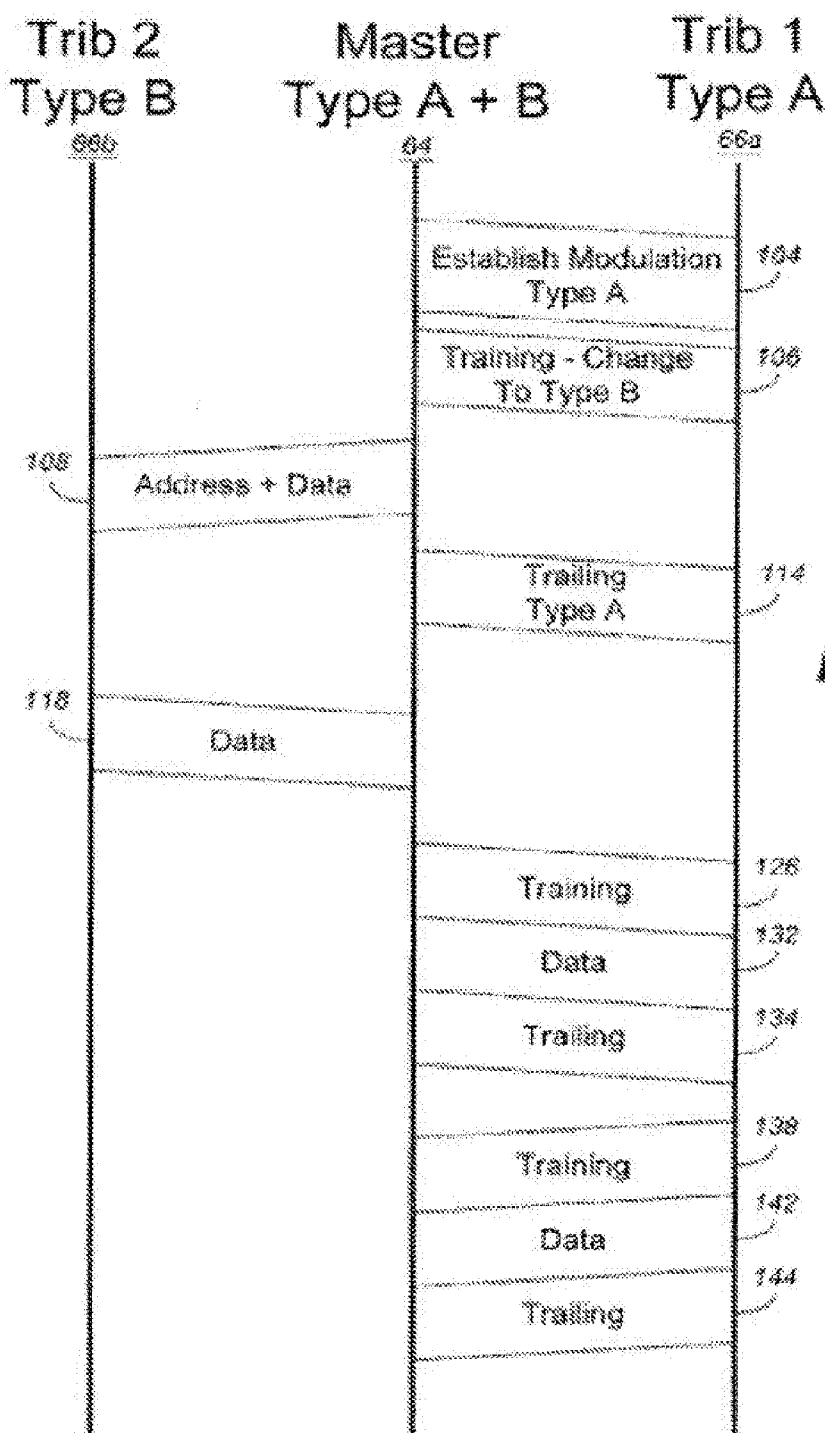
Annotated FIG. 8 shows two communications intended for different slaves. The first communication 170 uses a first type of modulation method for both the initial training signal and

the subsequent data signal, while communication 172 uses the first type of modulation method for the training signal and the second type of modulation method for the data signal:



Col. 4, ll. 21-24, 42-44, Fig. 8. Information in the training signal indicates whether there will be an impending change from the first type of modulation method to the second type of modulation method. *Id.* (training signal includes “notification of change to Type B” modulation method). Akl, at ¶ 87.

Mr. Bremer’s solution is captured and claimed in his seamless “switches” from one modulation type to another and is described with reference to Fig. 5:



**FIG. 5**

With reference to FIG. 5, if the Master is communicating with a Type A trib (“Trib 1 Type A”) using a negotiated first modulation type A in the normal fashion and then wants to

communicate with a Type B trib (“Trib 2 Type B”), the Master transmits “first information” comprising a “*first sequence*” modulated according to the “first modulation method” (one that the Type A trib understands) comprising “*a first sequence*” that “indicates an impending change” to a second modulation method (illustrated as 106). The Master then transmits to the Type B trib “second information for at least one group of transmission sequences compris[ing] *a second sequence* that is modulated according to the second modulation method,” which is “a different type than the first modulation method.” In the Fig. 5 embodiment, the “second sequence” is illustrated as 108 and uses the second type modulation method, i.e., one that the Type B trib can understand and Type A cannot. Akl, at ¶ 88.

It is at this point in the embodiment of Fig. 5 that the limitations of claim 2 (and similarly claim 59) come into play. To satisfy claim 2, the transceiver must be “configured to transmit *a third sequence* after the second sequence wherein the third sequence is transmitted in the first modulation method and *indicates that communication from the master to the slave has reverted to the first modulation method.*” Akl, at ¶ 89.

Again, with reference to Fig. 5, after the Master completes its communication with a Type B trib using Type B modulation (transmission sequence 108), the Master sends a “third sequence” to inform Type A trib that “communication from the Master has reverted to the first modulation method” (illustrated as 114, 126-132). Akl, at ¶ 90.

The ‘580 specification describes the claimed switches as follows:

“To switch from type A modulation to type B modulation, master transceiver 64 transmits a training sequence 106 to type A trib 66a in which these trib 66a are notified of an impending change to type B modulation. ... After notifying the type A trib 66a of the change to type B modulation, master transceiver 64,

using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b. .... [Col. 6, ll. 3-12]

.... If, however, master transceiver transmits a training sequence in which the type A trib 66a-66a are notified of a change to type B modulation as indicated by sequence 106, then a transition is made to state 124 where all type B transmissions are ignored until a type A modulation trailing sequence (e.g., sequence 114) is detected. Upon detecting the type A trailing sequence, a type A trib 66a returns to state 122 where it awaits a training sequence.” [Col. 6, ll. 41-48]

“To initiate a communication session with a type A trib 66a, master transceiver 64 transmits a training sequence 126 in which an address of a particular Type A trib 66a is identified. The identified Type A trib 66a recognizes its own address and transitions to state 128 to receive data from master transceiver 64 as part of sequence 132.” [Col. 6, ll. 49-54]

Thus, with reference to Fig. 5 (and using the language of claim 2), Mr. Bremer’s switches include:

- a) “a first sequence” sent by the master using the first modulation method to inform the Type A trib 66a of “an impending change” to a second modulation method – one that is incompatible with the first -- telling Type A trib 66a to ignore the second message’s “second sequence” which they cannot understand and is not intended for them;
- b) “a second sequence” sent by the master using the second, incompatible modulation method to the Type B trib 66b -- one that does understand the communication; and
- c) “a third sequence” sent by the master using the first modulation method to inform Type A trib 66a that “communication from the Master has reverted to the first modulation method.”

Akl, at ¶ 92. The combination of Gordon Bremer’s claimed sequences captures his solution to the incompatibility problem, i.e., switching from one modulation type to another incompatible modulation type when switching from one trib type to another. None of the cited references discloses or suggests either the problem Mr. Bremer set out to solve in the master/slave setting,

or his solution to that problem. (*See* '580 Patent at col. 5, l. 57 – col. 7, l. 3 (describing FIG. 5);

Akl, at ¶ 93).



V. **The Evidence Is Not Sufficient to Establish That The Harris Documents Were Published Because There Is No Evidence That Either Was Accessible to The Relevant Public and Thus Snell's Attempted Incorporation by Reference Fails**

Neither Harris AN9614 nor Harris 4064.4 qualifies as prior art under 35 U.S.C. § 102 because the evidence is not sufficient to establish that either was published, i.e., made available to the interested public, as required by statute.<sup>17</sup> In order to prove that a document is a publication under § 102, the document must have been “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.” *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981) (quoted in MPEP § 2128). *See also Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006) (quoting *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981)); *Ex parte Jennings*, Appeal 2007-0064, 2007 WL 774798, at \*2-3 (BPAI Mar. 9, 2007); *Ex Parte Textron Innovations, Inc.*, Appeal 2010-011891, 2011 WL 2095629, at \* 21-22 (BPAI May 23, 2011). Public accessibility is the “touchstone in determining whether a reference constitutes a ‘printed publication’ bar under 35 U.S.C. § 102.” *In re Hall*, 781 F.2d 897, 898-99 (Fed. Cir. 1986), quoted in *SRI Int’l, v. Internet Sec. Sys.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008). *See also In re Lister*, 583 F.3d 1307, 1316-17 (Fed. Cir. 2009) (rev’g the Board’s rejection because the government failed to make a prima facie case that the relied-upon reference was publicly accessible prior to critical date); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 936

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<sup>17</sup> The plain meaning of “publication” requires that a document be made accessible to the public to be considered a publication. *See, e.g.*, American Heritage Dictionary of the English Language (5<sup>th</sup> ed. 2016) (Houghton Mifflin Harcourt Publishing Co.) (“publication” means the act of making public).

(Fed. Cir. 1990) (“A document, to serve as a ‘printed publication’, must be generally available.”); MPEP § 2128.02.

The 3-31-17 Office Action contains no discussion addressing (let alone establishing) public accessibility of the Harris Documents. The Order reasoned that the Harris Documents are prior art simply because they “are incorporated by reference by Snell.”<sup>18</sup> Order, at 4. As explained below, the mere attempted incorporation by reference of the Harris Documents into Snell does not transform the Harris Documents into prior art. The burden to establish public accessibility of the Harris Documents (i.e., Harris AN9614 and Harris 4064.4) is on the patent challenger. *See, e.g., Ex parte Trend Micro*, Appeal 2012-005205, 2012 WL 2991616, at \*3-4 (BPAI July 17, 2012); *Ex parte Spalding*, Patent Interference No. 104,699, 2002 WL 230978, at \*5-6 (BPAI 2002). In this case, the Office Action fails to meet that burden.

Nothing on the face of either Harris Document evidences that it was publicly accessible prior to the priority date of the ‘580 Patent and, thus, available as a § 102 reference. The mere inclusion of an unregistered copyright date is not sufficient. Snell’s attempted incorporation by reference of the Harris Documents is also ineffective to render them “printed publications,” because documents such as the Harris Documents, which are not publications (in the legal

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<sup>18</sup> Although pages 29-32 of the Request contained additional arguments that the Harris Documents were “printed publications,” those portions of the Request were *not* incorporated by reference in the 3-31-17 Office Action. While the Office Action has not adopted or incorporated these additional arguments, in an effort to expedite this proceeding, Rembrandt provides preliminary remarks responsive to Requestor’s additional arguments on this issue. Should the Examiner adopt some or all of Requestor’s additional arguments relating to the Harris Documents being “printed publications” in a future Office Action, the Patent Owner reserves the right to supplement the points set forth in this Reply.

sense), cannot be incorporated by reference, and any attempt to do so fails. Finally, Snell's submission of the Harris Documents to the U.S. Patent and Trademark Office ("USPTO") in an Information Disclosure Statement ("IDS") during the prosecution of Snell, which resulted in the Harris Documents being included in the Snell file wrapper and listed on the Snell cover, also fails to establish public accessibility of the Harris Documents *at the time the Snell application was filed* (or any time before the Dec. 5, 1997, priority date of the '580 Patent). In fact, there is no evidence in the record of their public accessibility prior to the issuance of the Snell patent, which did not occur until Nov. 9, 1999 (well after the priority date of the '580 Patent).

**A. Nothing in the Harris Documents Demonstrates Accessibility to the Relevant Public**

The "March 1996" and "October 1996" dates on Harris AN9614 and Harris 4064.4, respectively, and their 1996 copyright notices by Harris Corporation are not sufficient to establish a date of dissemination or accessibility to "persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence." *Wyer*, 655 F.2d at 226. Unlike a publication date, a copyright date merely establishes "the date the document was created or printed." *Hilgraeve, Inc. v. Symantic Corp.*, 271 F. Supp. 2d 964, 975 (E.D. Mich. 2003). *See also Ex parte Rembrandt Gaming Technologies, LP*, Appeal 2014-007853, Reexamination Control No. 90/012,379 at 5 (PTAB December 3, 2014) ("the 1993 copyright date in Tequila Sunrise does not show the requisite availability in 1993"); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper No. 13 at 17 (PTAB Aug. 26, 2015) ("we are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date"). In this case, there is no evidence that the copyrighted material was ever

registered or that the documents were deposited with the Library of Congress. Lacking such evidence, a copyright notice has little, if any, evidentiary value.

Accordingly, the dates and copyright notices on the Harris Documents merely establish the dates they were created or printed, and do not establish that they were disseminated or otherwise made available to the relevant public by those dates.

**B. No Other Cited Evidence Remedies the Above-Described Shortcomings of the Harris Documents**

Harris Semiconductor submitted the Harris Documents to the Office on March 17, 1997, in an IDS during the prosecution of Snell. While that submission apparently resulted in the Harris Documents being included in the Snell file wrapper and listed under “Other Publications” on the cover of Snell, that handling of the Harris Documents in the Office does not establish their public accessibility. Neither does the fact that Snell refers to Harris 4064.4 as “a publication,” Snell at 1:50-54, 5:13-17, and to Harris AN9614 as being part of “the Harris PRISM 1 chip set literature.” *Id.* at 4:65-5:7. Like the dates and copyright notices of the Harris Documents, these statements fail to establish that the documents were publicly accessible any time prior to the issuance of the Snell patent, which occurred *after* the priority date of the ‘580 Patent.

First, the submission of the Harris Documents in an IDS does not demonstrate that they were prior art publications because the “[m]ere listing of a reference in an information disclosure statement is not taken as an admission that the reference is prior art against the claims.” MPEP § 2129(IV) (citing *Riverwood Int’l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354-55 (Fed Cir. 2003) (listing of applicant’s own prior patent in an IDS does not make it available as prior art absent a statutory basis). *See also* 37 CFR § 1.97(h) (“The filing of an information disclosure statement shall not be construed to be an admission that the information cited in the statement is,

or is considered to be, material to patentability as defined in § 1.56(b).”). Moreover, although the Harris Documents were listed as “Other Publications” on the cover of Snell when it issued in 1999, Harris Semiconductor did not submit the documents as publications and instead labelled them as “Other Art.” Request, Exhibit L at 78.

Second, the presence of the Harris Documents in the file wrapper of the *unpublished* Snell application does not demonstrate that they were publicly accessible at any time before the Snell application issued as a patent on November 9, 1999. *See* MPEP § 1120(I) (35 U.S.C. § 122(a)) (“Except as provided in subsection (b),<sup>[19]</sup> applications for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provisions of an Act of Congress or in such special circumstances as may be determined by the Director.”). Thus, *until the Snell patent issued*, the interested public would not have known of the Snell application’s existence and would not have known of the existence of the Harris Documents in its file wrapper. *Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457 (PTAB Mar. 19, 2015) (Paper 9) addressed this exact situation:

Patent Owner argues that the citation of the HDMI Specification in an IDS filed in the prosecution of U.S. Patent No. 7,940,809 also fails to support Petitioner’s position. Patent Owner notes that “[t]he published application from which the ’809 patent derives ... does not cite [the HDMI Specification],” and that “U.S. Patent No. 7,940,809 was not granted until 2011, long *after* the priority date of the ’182 patent.” Patent Owner elaborates that Petitioner does not explain how submission of a document in an IDS of an unpublished, ungranted patent application demonstrates public accessibility of the document, noting that

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<sup>19</sup> Section (b) applies only to applications filed on or after November 29, 2000. Thus, section (b) does not apply to Snell, which was filed in 1997.

Petitioner does not identify any way that an interested person could or would have located the document submitted in the IDS of an unpublished, ungranted patent application. Patent Owner argues that “the mere apparent possession of the specification by the assignee [of the unpublished, ungranted patent application]—a single company—does not demonstrate the document’s *public* availability.”

...

We are persuaded that Petitioner has not demonstrated the public accessibility of the HDMI Specification. For the reasons explained by Patent Owner, the evidence cited by Petitioner facially fails to demonstrate the public accessibility of the document prior to the effective filing date of the ’182 patent.

*Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457, slip op. at 26–28 (PTAB Mar. 19, 2015) (Paper 9) (citations and footnotes omitted, emphasis in original).

In *Microsoft Corp.*, the PTAB found that Petitioner had not demonstrated the public accessibility of the HDMI Specification even though: (1) in addition to the citation of the HDMI Specification in an IDS of an unpublished application, Petitioner provided the date on the HDMI Specification, a press release regarding the HDMI Specification, and a PC Magazine article about the HDMI Specification as evidence, *id.* at 25-26, and (2) the HDMI Specification was cited in an IDS by an assignee (Synerchip Co. Ltd.) who was *not* the source of the HDMI Specification (Hitachi, Ltd. et al.), which indicated that a company other than the source has possession. *Id.* at 7; U.S. Patent No. 7,940,809. Here, (1) there is even less evidence of public accessibility for the Harris Documents, and (2) Harris Semiconductor was the source of *both* the Harris Documents and the IDS submitting the Harris Documents. Accordingly, like the situation in *Microsoft Corp.*, public accessibility of the Harris Documents has not been established.

Notably absent is any evidence in the record demonstrating that the Harris Documents were disseminated to anyone other than the Office before the December 5, 1997, priority date of the ‘580 Patent. In fact, there is no evidence that anyone outside of Harris Semiconductor and

the Office even knew of the Harris Documents before the issuance of Snell as a patent on November 9, 1999. *See De Graffenried v. United States*, 20 Cl.Ct. 458, 471 (Cl. Ct. 1990) (“There is no evidence in the record of any distribution beyond DTIC [Defense Technical Information Center]; there is no indication that any entity, much less those entities technologically knowledgeable and interested, ever requested or received from DTIC either an actual copy of the Haag report or any information ... indicating that the report existed.”). *See also* Akl, at ¶ 73. In addition, even if interested persons had known of the existence of the Harris Documents, there is no evidence that an interested person, exercising reasonable diligence, could have located the Harris Documents submitted to the Office in an IDS of an unpublished patent application, an application that did not issue before the priority date of the ‘580 Patent. To the contrary, by law, the Snell application (including the IDS and the Harris Documents) was kept in confidence by the Office until the Snell patent issued on November 9, 1999. *See* 35 U.S.C. § 122(b); MPEP § 1120(I).

Moreover, there is a complete absence of evidence as to how an interested person could have located and accessed the Harris Documents before November 9, 1999. For instance, there is no evidence that, before the December 5, 1997 priority date of the ‘580 Patent, the Harris Documents were indexed or catalogued in any meaningful way to enable an interested person to locate them. *See SRI Int’l, Inc. v. Internet Security Sys., Inc.*, 511 F.3d 1186, 1195-96 (Fed. Cir. 2008) (citing *Application of Bayer*, 568 F.2d 1357, 1358–59 (CCPA1978); *In re Cronyn*, 890 F.2d 1158, 1161 (Fed.Cir.1989)). Accordingly, the Office has failed to establish that the Harris Documents were “disseminated or otherwise made available to the extent that persons interested

and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.”

*Wyer*, 655 F.2d at 226.

**C. The Harris Documents Were Not “Incorporated by Reference” in Snell**

Snell’s attempt to incorporate by reference “the entire disclosure” of the Harris Documents fails because such incorporation is limited by law.<sup>20</sup> *See* 37 C.F.R. §§ 1.57(d) & (e). Thus, contrary to the Office’s position (Order, at 4), Snell’s attempt at incorporation fails and thus does not render the Harris Documents prior art under § 102(e).

Sections 1.57(d) and (e) read:

(d) “Essential material” may be incorporated by reference, but only by way of an incorporation by reference to a U.S. patent or U.S. patent application publication, which patent or patent application publication does not itself incorporate such essential material by reference. “Essential material” is material that is necessary to: ...

(e) Other material (“Nonessential material”) may be incorporated by reference to U.S. patents, U.S. patent application publications, foreign patents, foreign published applications, prior and concurrently filed commonly owned U.S. applications, or non-patent publications. ....” [emphasis added]

Thus, only certain types of documents may be incorporated by reference. Other than U.S. patent applications, *only published* documents, i.e., ones reasonably accessible to the interested public, may be incorporated by reference. If a document is not published and thus is not a

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<sup>20</sup> Incorporation by reference is a legal tool that permits certain documents – or parts of certain documents -- to be considered part of a patent specification without writing the document’s disclosure into the specification. *See Zenon Envtl, Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378 (Fed. Cir. 2007) (“Incorporation by reference ‘provides a method for integrating material from various documents into a host document ....’”). Incorporation by reference is accomplished by identifying the document in whole or in part and indicating the applicant’s intent to incorporate the material by reference. *See id.*



publication in the legal sense, it cannot be incorporated by reference, and any attempt to do so must fail.

More specifically, assuming that the Harris Documents were “non-essential” to Snell’s disclosure, they could only be incorporated by reference if they were “publications” under section (e) above. However, the record does not support a finding that these documents were publications, for the reasons given above. The fact that the Snell application refers to the Harris Documents and states Snell’s intent to incorporate them by reference does not render them so incorporated, as there is no basis in law for incorporation by reference of a nonpublished document. *See* 37 C.F.R. § 1.57(e) (quoted above); *cf. Quaker City Gear Works, Inc. v. Skil Corp.*, 747 F.2d 1446 (Fed. Cir. 1984) (“Incorporation by reference has never been permissible under 35 U.S.C. § 112 of material necessary for an adequate disclosure which is unavailable to the public”); *In re Howarth*, 654 F.2d 103, 106 (CCPA 1981) (“After ruling that prior U.S. patents may be so incorporated ... this court extended the doctrine of incorporation by reference stating as a general guideline ...that ‘any reference to a disclosure *which is available to the public* is permissible.’” (emphasis added)); *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374 (Fed. Cir. 1999) (“If an incorporated reference, which is the sole support for a corresponding structure, is publicly unavailable, then the claim is not understandable”); *General Elec. Co. v. Brenner*, 407 F.2d 1258, 1262 (D.C. Cir. 1968)(“[I]ncorporation by reference has a home in patent cases *provided that any reference made is to that which is available to the public*”)(emphasis added); *Linear Technology Corp. v. Micrel, Inc.*, 524 F.Supp.2d 1147, 1153 (N.D. Cal. 2005)(“A patent applicant may incorporate external *public works* in the specification of a patent by explicit reference”)(citations omitted); *Chiron Corp. v. SourceCF Inc.*, 431

F.Supp.2d 1019, n. 5 (N.D. Cal. 2006)(“A patentee may, in fact, incorporate by reference any source ‘which is *available to the public*’”(citations omitted); *In re Lund*, 376 F.2d 982, 989 (CCPA 1967)(“the disclosure in a patent application may be deliberately supplemented or completed by reference to ... ‘disclosure which is *available to the public*’”(citations omitted). At most, Snell’s attempted incorporation renders the documents publications as of Snell’s issue date – well after the ’580 priority date.

For the reasons set forth above, the Office has not established that either of the Harris Documents was a publication, i.e., available to the relevant public, as required by law, as of the March 17, 1997, filing date of the Snell application (or any time prior to the ’580 priority date). Therefore, the Harris Documents could not be and were not incorporated by reference into Snell and, thus, are not prior art under § 102(e).

**D. Even Assuming That The Harris Documents Were Published, Incorporation by Reference Fails Because Snell Did Not Specifically Incorporate The Materials in the Documents Assumed to be Relied on by The Office to Support Its Rejections**

The Office does not explain what portions of the Harris Documents it is relying on (if any) to support its rejections in either its Order or in the 3-31-17 Office Action. However, none of the sections of either Harris Document specifically referenced by Snell provide any support for the Office’s rejections. Thus, incorporation by reference, even if successful (which it cannot be), would not have incorporated material useful to support the Office’s positions.

Assuming that the Office is relying on the disclosure in Harris AN9614 of a controller that can keep adequate time to operate in either a polled or a time allocated scheme and asserts that the polled scheme of Harris AN9614 corresponds to the claimed “master/slave relationship,” that reliance is flawed for two reasons. First, as explained above, Harris AN9614 could not have

been properly incorporated by reference into Snell because the Office did not establish that Harris AN9614 was a publication accessible by the relevant public before the December 5, 1997, priority date of the '580 application. *See supra* at V.A-B. Second, even assuming, solely for the sake of argument, that Harris AN9614 was a publication capable of being incorporated by reference into Snell, Snell would have only incorporated the description of various filters and voltage controlled oscillators in Harris AN9614 and not the communication using a polled scheme. Snell's description of Harris AN9614 is limited to the following:

Various filters 36, and the illustrated voltage controlled oscillators 37 may also be provided as would be readily understood by those skilled in the art and as further described in the Harris PRISM 1 chip set literature, such as the application note No. AN9614 .... Snell at 5:2-6 (emphasis added).

As explained below, at most, Snell's reference to Harris AN9614 incorporated only the description of various filters and voltage controlled oscillators from Harris AN9614 into Snell, and not any disclosure relating to the unrelated concept of polling.

“To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” *Advanced Display Systems, Inc. v. Kent State University*, 212 F.3d 1272 (Fed.Cir. 2000) (citing *In re Seversky*, 474 F.2d 671, 674 (CCPA 1973); *In re Saunders*, 444 F.2d 599, 602–03 (CCPA 1971); *National Latex Prods. Co. v. Sun Rubber Co.*, 274 F.2d 224, 230 (6th Cir.1959); *In re Lund*, 376 F.2d 982, 989 (CCPA 1967)) (quoted in *Zenon Environmental, Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378 (Fed.Cir. 2007); *Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1376 (Fed.Cir.2006)). Snell does not identify at all (and certainly not “with detailed particularity”) communication using a polled scheme as the specific material it incorporates. Snell at 5:2-7. Instead, Snell identifies only the “filters” and

“oscillators” described in Harris AN9614 as the specific material it incorporates. *Id.* Accordingly, the polled scheme of Harris AN9614 relied upon by the Office was not incorporated into Snell.

For example, in *Zenon Environmental*, the Fed. Cir. considered the following incorporation by reference language:

The vertical skein is not the subject matter of this invention and any prior art vertical skein may be used. Further *details relating to the construction and deployment of a most preferred skein* are found in the parent U.S. Pat. No. 5,639,373, and in Ser. No. 08/690,045, *the relevant disclosures of each of which are included by reference* thereto as if fully set forth herein.

*Zenon Environmental*, 506 F.3d at 1379. The Federal Circuit agreed “that the gas distribution system disclosed in the ’373 patent is not a detail that relates to the construction and deployment of a vertical skein,” *id.* at 1379-80, and found that “the ’250 patent fails to incorporate by reference, with sufficient particularity to one reasonably skilled in the art, the gas distribution system disclosed in the ’373 patent.” *Id.* at 1382. Here, Snell fails to incorporate by reference, with sufficient particularity to one reasonably skilled in the art, the polled scheme of Harris AN9614, which is not a detail that relates to the “filters” and “oscillators” described in Harris AN9614. *See* Snell at 5:2-7; Harris AN9614 at 3. *See also Ex parte Carlucci*, 2012 WL 4718549 (BPAI 2012)(“Although Hammons states ‘[t]he disclosures of all patents . . . mentioned throughout this patent application are hereby incorporated by reference herein’, Hammons does not identify with specificity the transparency of Ahr ‘045’s apertured film. . . . Hammons’s disclosure is directed to the function and dimensions of Ahr ‘045’s apertured film. Accordingly, we do not find that Hammons incorporates by reference the transparent characteristic of Ahr ‘045’s apertured film. Hence, the Examiner’s finding that “Hammons discloses a transparent

topsheet through incorporation of the Ahr [’045] reference” is incorrect”); *Ojmar US, LLC v. Security People, Inc.*, 2015 WL 6510359 (PTAB 2015)(specific reference to “drive unit” coupled with general incorporation by reference insufficient to incorporate subject matter other than the “drive unit.”).

Moreover, to the extent that that Snell attempted a blanket incorporation by reference of Harris AN9614 in its entirety (as opposed to merely the portions of Harris AN9614 describing various filters and voltage controlled oscillators), the PTAB has *rejected* the notion that a patent can incorporate by reference another document in its entirety (as opposed to merely specific material identified with detailed particularity). In *Ex parte Koppolu*, the PTAB explained the rationale for prohibiting applicants from incorporating entire documents without an explanation of what they are being on relied on to show:

[I]t is evident that the absence of a specific identification of the material of the source document that is being incorporated by reference and an explanation of what it is being relied on to show *will make it difficult for examiners, the public, and the courts to determine which material the inventor considered to be part of his or her invention* when the application was filed. ...

[B]y permitting applicants to incorporate by reference entire documents without an explanation of what they are being relied on to show would invite the wholesale incorporation by reference of large numbers of documents and correspondingly increase the burden on examiners, the public, and the courts to determine the metes and bounds of the application disclosures.

For the foregoing reasons, we will apply the law on incorporation by reference as stated in *Advanced Display* and repeated in *Cook Biotech*.

Appellants’ argument that MPEP § 2163.07(b) “expressly authorizes the incorporation by reference of an entire document,” ... is unconvincing because an incorporation by reference must satisfy the specificity requirement of *Advanced Display*. [2005 WL 4806276 (BPAI 2005) (emphasis added).]

*See, e.g., Oxford Nanopore v. Univ. of Washington*, 2014 WL 4644357 (PTAB 2014) (“In the instant case, although Petitioner urges that Akeson incorporates by reference the disclosure at column 13, lines 10-13 of the ‘782 patent, the Petition does not direct us to any express or specific disclosure in Akeson mentioning that passage with detailed particularity. ... Nor does the Petition direct us to any clear or specific disclosure in Akeson suggesting that Akeson sought to incorporate by reference any teachings in the ‘782 patent as to the physical properties Akeson required of its nanopores. ... Accordingly, we are not persuaded that the Petition has shown that, because Akeson incorporates the ‘782 patent as a whole by reference, among many other references, Akeson in effect can be considered as positively teaching the subject matter disclosed at column 10, lines 10-13 of the ‘782 patent.” (citations omitted)); *Ex parte Carlucci*, 2012 WL 4718549 (BPAI 2012)(rejecting assertion that blanket incorporation by reference was effective to incorporate transparent characteristic of Ahr ‘045’s apertured film). Accordingly, despite Snell’s attempt to incorporate by reference “the entire disclosure” of Harris AN9614, Snell at 5:2-7, Snell should not be considered as positively teaching the polled scheme of Harris AN9614.

**VI. Claim Limitations Missing From All References and All Grounds of Rejection**

The Office has rejected claims 2 and 59 of the '580 Patent as allegedly (i) anticipated by Snell, (ii) unpatentable over Snell in view of Yamano, and (iii) unpatentable over Snell in view of Yamano and Kamerman. All three bases for rejection fail to establish unpatentability because the following three limitations are missing from all of the relied-on art and would not have been obvious based on any of the Office's grounds of rejection. Those missing limitations are (i) "the master/slave relationship," (ii) the "two [different] types of modulation methods," and (iii) "the third sequence."

With respect to both claims, those missing limitations are found in the following claim language:

- (i) "A communications device capable of communicating according to a master/slave relationship in which a slave communication [or message] from a slave to a master occurs in response to a master communication [or message] from the master to the slave, the device comprising: a transceiver, in the role of the master according to the master/slave relationship,"
- (ii) for sending or transmitting "at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method," and
- (iii) "configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method."

The primary reference, Snell, alone or in view of Yamano and/or Kamerman, does not disclose and would not have suggested any of these three limitations to one of ordinary skill in the relevant art (even if the Harris Documents were properly incorporated by reference).

**A. The Claimed Master/Slave Relationship**

Claims 2 and 59 require “a master/slave relationship in which a slave communication [or message] from a slave to a master occurs in response to a master communication [or message] from the master to the slave.” They also require that the “transceiver” act “in the role of the master according to the master/slave relationship.” Considered together, these limitations require “a transceiver in the role of the master according to the master/slave relationship [in which a slave communication or message from a slave to a master occurs in response to a master communication or message from the master to the slave].”

To address these requirements, the Office has drawn the following summary conclusions relying *solely* on Snell’s “teaching” of the claimed master/slave relationship to support each of its three grounds of rejection:

- (1) “Snell *teaches* a communication device (Abstract, Figs. 1-2 and 5-8) capable<sup>[21]</sup> of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (the transceiver of Snell is capable of such communication), the device comprising: a transceiver (Fig. 1), in the role of the master according to the master/slave relationship ...” (3-31 Office Action, at 9 (emphasis added)) (without supporting citations)

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<sup>21</sup> The Office repeatedly uses the phrase “capable of.” However, the claims require that the claimed transceiver be “configured to” transmit the claimed sequences (claim 58) and, more specifically, to transmit the claimed third sequence (claims 2 and 59). Thus, it is Rembrandt’s position that the claimed transceiver must be configured in a particular way to satisfy the claim limitations. See Ak1, at ¶ 102, note 8; *supra* at § III.B (discussing claim construction).



for the alleged teaching of the claimed master/slave relationship) (§ 102(e) rejection of claim 2 based on Snell);

(2) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (Fig. 1), in the role of the master according to the master/slave relationship ...” (3-31 Office Action, at 10 (emphasis added)) (again without supporting citations for the alleged teaching of the claimed master/slave relationship) (§ 102(e) rejection of claim 59 based on Snell);

(3) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1; Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell) ...” (3-31 Office Action, at 12 (emphasis added)) (citations in quoted text) (§ 103(a) rejection of claim 2 based on Snell in view of Yamano); and

(4) “Snell *teaches* a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5,

lines 2-7 and 18-21, Fig. 1, Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell), in the role of the master according to the master/slave relationship ....” (3-31 Office Action, at 15 (emphasis added)) ((citations in quoted text) (§ 103(a) rejection of claim 59 based on Snell in view of Yamano).<sup>22</sup>

Rembrandt has carefully reviewed these summary conclusions and the citations allegedly supporting them and finds no mention of the words “master” or “slave” in any of them, let alone an express teaching of the master/slave relationship as claimed. To the extent that the Office’s position is that the claimed master/slave relationship is either inherent in one or more of the citations or that one or more of the citations would have *suggested* the claimed master/slave relationship, the burden is on the Office to explain its position.<sup>23</sup> It is not Rembrandt’s burden to make the Office’s arguments for it. Thus, Rembrandt respectfully requests the Office withdraw

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<sup>22</sup> With respect to the master/slave limitations, the Office relies on the reasoning set forth in the § 103(a) rejection based on Snell in view of Yamano to support her § 103(a) rejection based on Snell in view of Yamano and Kamerman and thus provides no additional explanation or citations to support her position that the master/slave relationship is disclosed or would have been obvious based on the three references. (*See* 3-31-17 Office Action, at 17-20).

<sup>23</sup> To the extent that the Office relies on page 3 of Harris AN9614 to address the master/slave limitations, Rembrandt notes (1) Harris AN9614 is not prior art and thus, legally, could not have been incorporated by reference (*see supra* at § V) and (2) the portions of Harris AN9614 that Snell attempted to incorporate by reference have nothing to do with a master/slave relationship and are found on the first two pages of Harris AN9614, not the page relied on by the Office. Significantly, the cited portion of Harris AN9614 is silent about a master/slave relationship and does not even mention “master/slave” or “master” or “slave.” Significantly Harris AN9614 uses the polled scheme in the context of peer-to-peer communications (which is the topic being discussed in Snell and Harris AN9614), not master/slave communications. *See* Akl, at ¶¶ 103 (note 10), 112-120. Not even with hindsight would one of ordinary skill in the relevant art have surmised the polled scheme of Harris AN9614 as being used in a context other than peer-to-peer communications. *Id.* at ¶ 103, note 10.

its rejections for lack of disclosure or suggestion of the claimed master/slave relationship or issue another non-final Office Action adequately explaining and supporting its position.<sup>24</sup>

**1. There is No Evidence that Snell's Carrier Sense Transceiver is Configured to Act in the Role of Master or Slave in a Master/Slave System as Claimed**

The primary reference, Snell, discloses a transceiver 30, Snell at Fig. 1, 4:42-43, designed for peer-to-peer communications, such as carrier sense multiple access with collision avoidance (CSMA/CA) communications. *See* Snell at 5:26-29 (disclosing that Snell's transceiver includes a "CCA circuit block 44" that "provides a clear channel assessment (CCA) to avoid data collisions," i.e., collisions which do not occur in a master/slave setting). *See also* Fig. 1. Akl, at ¶ 104. Systems that implement a CSMA/CA protocol for collision avoidance are distinctly different than a master/slave system. IN a CSMA/CA system, any device on the network can initiate a communication whenever the device determines thatno other communications are occurring. In stark contrast, the claims of the '580 Patent are limited to master/slave communications, as noted above, in which slave devices can only communicate on a network when prompted by a master. Because of this fundamental difference, the problem the '580 Patent set out to solve within the context of a more rigid master/slave setting was not one faced by Snell, and the solution claimed in the '580 Patent is not one disclosed or suggested by Snell. *See supra* at § IV.B-C; Akl, at ¶¶ 94-97, 104. Thus, Snell does not disclose and would not have suggested master/slave communications, let alone the master/slave relationship claimed in the

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<sup>24</sup> In an effort to advance prosecution, the "polled scheme" of Harris AN9614 is discussed *infra* at ¶ VI.A.3. If the Office explains its position in the next Office Action, that action must be made non-final to give Rembrandt an opportunity to fully respond.

‘580 Patent, without using the claimed invention as a roadmap.<sup>25</sup> See Akl, at ¶¶ 81-93 (describing the ‘580 Patent technology), 104. An analogous issue was addressed in the rehearing of *In re Prater*:

We have carefully considered the basic position of the Patent Office that it would be obvious to program a general-purpose digital computer to practice appellants’ invention and that apparatus claim 10 reads on such a computer, as well as the disclosed analog device. We find that position fatally defective in that it, in effect, assumes the existence *as prior art* of appellants’ discovery that the relationship indicative of error amplification “is related to, and may be expressed in terms of, the determinants of the subsets of equations, the determinant of largest magnitude indicating the subset of equations involving least error amplification.” Perhaps today, *after* reading appellants’ disclosure, the public dissemination of which the patent system fosters and encourages, it might be obvious to program a general-purpose digital computer to practice the invention. But 35 U.S.C. § 103 requires an analysis of the prior art *at the time the invention was made* to determine whether the invention was obvious. *Graham v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). Assuming the existence, at the time of the invention, of general-purpose digital computers as well as typical programming techniques therefor, it is nevertheless plain that appellants’ invention, as defined in apparatus claim 10, was not obvious under 35 U.S.C. § 103 because one not having knowledge of appellants’ discovery simply would not know what to program the computer to do. See *Ex parte King*, 146 USPQ 590 (Pat.Off.Bd.App. 1964).

*In re Prater*, 415 F.2d 1393, 1397-98 (CCPA 1969) (emphasis added). As occurred in *Prater*, the rejections based on hindsight – with the claimed invention of the ‘580 Patent used as a

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<sup>25</sup> The same is true of Kamerman and Yamano in that they also describe peer-to-peer communications– again, fundamentally different than the claimed master/slave system in the ‘580 Patent. Akl, ¶ 104, note 11. Kamerman expressly relates to “wireless LANs that operate to conform to the IEEE 802.11 DSSS (direct sequence spread spectrum) standard.” Kamerman at 6 (disclosing that IEEE 802.11 is compatible with a “CSMA/CS (carrier sense multiple access with collision avoidance)” protocol). See also *id.* at at 8 (“IEEE 802.11 CSMA/CA”), *id.* at 12 (“[t]he CSMA/CA behavior of wireless LANs operating to conform to IEEE 802.11 DS”). See Yamano, at col. 19, ll. 21-36 (recommending using ‘a carrier sense multiple access (CSMA) scheme’). Yamano and Kamerman are silent regarding any master/slave communications. Akl, at ¶ 104, note 11.

roadmap – cannot stand. One simply would not know how to configure Snell’s transceiver to address the problem Gordon Bremer identified and solved. Akl, at ¶¶ 104-109.

With respect to the master/slave relationship limitations in both claims 2 and 59, the Office summarily and repeatedly concludes – without explaining its position – that “the transceiver of Snell is capable of such communication.” 3-31-17 Office Action at 9. *See also id.* at 10, 12, 15 (with citations to Snell). Such summary conclusions do not point to any evidence that Snell’s transceiver is, in fact, of a design configured to communicate in the manner claimed. For that reason alone, all of the rejections based in whole or in part on Snell fail.

With respect to the Office’s § 102(e) rejection based on Snell, the Office’s failure to establish that Snell’s transceiver (without modification) is capable of functioning “in the role of the master according to the master/slave relationship” defeats the Office’s anticipation rejection. *See, e.g., Ex parte Kumar*, Appeal 2012-010829, 2015 WL 729625 at \*4 (PTAB February 18, 2015) (citing *Typhoon Touch Techs*, 659 F.3d at 1380) (“Because the Examiner has not shown that Proulx’s apparatus can perform the function stated in the claim without requiring to specifically program or reconfigure the apparatus, and thus change the apparatus’s structure, the Examiner does not establish that Proulx’s apparatus anticipates claim 67.”); *Ex parte Eckardt*, Appeal No. 2013-007294, 2016 WL 827260 at \*2 (PTAB February 29, 2016) (“Lacking any explanation by the Examiner regarding why the functional language in claim 1 following the term “configured to” fails to limit the structure of the claimed system, and lacking any explicit finding that Eckhardt’s device including a catalytic recombiner would satisfy the “configured to” language of claim 1, we do not sustain the rejection of claim 1.”).

With respect to the Office's two § 103(a) rejections, the Office again posits that "Snell teaches a communication device capable of communicating according to a master/slave relationship." Office Action at 12 (citing Snell at Fig. 1, 1:34-46, 1:47-50, 1:55-57, 4:27-30, 4:42-47, 5:2-7; Harris AN9614 at p. 3). However, as noted above, the materials cited do not mention "master/slave" or "master" or "slave," and the Office does not explain where such a teaching or suggestion is found in the cited material. The Office has failed to explain how Snell's transceiver (with or without modification) would have rendered that claimed in the '580 Patent obvious. It is not enough to just state that Snell's transceiver is theoretically "capable of" being modified to include the master/slave communications in claims 2 and 59. Again, given the fundamental differences between Snell's teachings and those in the '580 Patent, claims 2 and 59 would not have been obvious based on Snell in the absence of hindsight. *See* Akl, at ¶¶ 104-109. *See also In re Prater*, 415 F.2d at 1397-98 (quoted above).

**2. The Office's Reliance on "Incorporation by Reference" of Harris AN9614 Fails**

The Office states that "Harris AN9614 is incorporated by reference" in Snell. Office Action at 12 (citing Snell, at col. 5, ll. 2-7). However, for the reasons set forth above, Harris AN9614 was not published before the December 5, 1997, priority date of the '580 patent. Therefore, it is not prior art and could not have been properly incorporated by reference into Snell because of the legal restrictions on what materials can be so incorporated. *See supra* at § V.A-C; Akl, at ¶¶ 71-73. In any case, the Office does not explain how Harris AN9614 supports its position that Snell's transceiver is configured to act in the "role of master" and to communicate "according to a master/slave relationship" as claimed. Again, it is not Rembrandt's burden to make the Office's arguments for it. However, to expedite prosecution of

this reexamination, Rembrandt responds to one possible argument the Office may be making (based on arguments made in the Request regarding a brief discussion in Harris AN9614 of a “polled scheme” – arguments that have not been incorporated in the 3-31-17 Office Action).

*If* the Office is relying on language in Harris AN9614 discussing a “polled scheme” (found on page 3 of Harris AN9614), for the reasons set forth *supra* at § V.D, Rembrandt again points out that the attempted incorporation by reference of the “polled scheme” discussion fails for a second reason: Snell did not identify that specific material with detailed particularity but rather identified discussions of filters and oscillators – topics that have nothing to do with the “polled scheme” and that appear in a different section of Harris AN9614. *See* Snell, at col. 5, ll. 2-7 (“Various filters 36, and the illustrated voltage controlled oscillators 37 may also be provided as would be readily understood by those skilled in the art and as further described in the Harris PRISM 1 chip set literature, such as the application note No. AN9614, March 1996, the entire disclosure of which is incorporated herein by reference.”). The sections of Harris AN9614 discussing filters and oscillators appear in Harris AN9614, at pages 1 and 2 and not the page cited by the Office, i.e., page 3. In fact, page 3 of Harris AN9614 turns to a new topic, i.e., “High Rate Burst Transmissions With Low Average Rate.” In any case, *even if*, contrary to the case we have here, (1) Harris AN9614 were prior art so, as a matter of law, it could have been incorporated by reference *and* (2) the Office were relying on the “polled scheme” discussion in Harris AN9614 *and* (3) the sections discussing the “polled scheme” were properly incorporated, those sections do not disclose and would not have suggested the claimed “master/slave relationship.” *See infra* at § VI.A.3; Akl, at ¶¶ 112-120.

**3. The Claimed Master/Slave Relationship is Not Inherent in Harris AN9614's "Polled Scheme" and would Not have been Suggested to One of Ordinary Skill in the Relevant Art by Harris AN9614's "Polled Scheme"**

Assuming *arguendo* that the "polling scheme" on page 3 of Harris AN9614 had been properly incorporated into Snell, to the extent the Office is implying that the master/slave limitations of the claims are inherently disclosed in Snell, Rembrandt disagrees. *See* Akl, at ¶¶ 112-120. Whether described expressly or inherently, "[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (citing *Sound-scriber Corp. v. U.S.*, 360 F.2d 954, 960, 148 USPQ 298, 301 (Ct. Cl. 1966)). *See also Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Thus, a finding of inherent anticipation requires more than "probabilities or possibilities." *Motorola Mobility LLC v. Int'l Trade Comm'n*, 737 F.3d 1345, 1350 (Fed. Cir. 2013); *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). "The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency." *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993); *In re Robertson*, 169 F.3d at 745.

Further, the burden rests on the Office to "reasonably support" any allegation of inherent disclosure:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant's invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow



molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was “formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material.” *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl’s balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

MPEP § 2112.

In this case, to the extent the Office is relying on inherent disclosure in Snell, the Office has failed to meet its burden because it has failed to provide a “basis in fact and/or technical reasoning to reasonably support” the determination that the master/slave limitations in the challenged claims necessarily flow from the teachings of Snell (even presuming that Harris AN9614 had been properly incorporated). Moreover, it is plain that a “master/slave relationship” is not inherent in Harris AN9614’s “polling scheme,” because polling can and does take place in peer-to-peer systems (like the CCA systems described at col. 5, lines 26-29 of Snell).

For example, node A and node B could communicate according to a polled scheme in which (i) node A polls node B to request information from node B, (ii) after node B sends the requested information to node A, node B polls node A to request information from node A, and (iii) node A sends the requested information to node B. In this way, nodes A and B would use a polled scheme to communicate, but neither of nodes A and B would be a master or slave. *See* Akl, at ¶¶ 117-118 (citing “Telecommunications network,” at 2, Britannica Online Encyclopedia (“A decentralized form of polling is called token passing. In this system, a special “token” packet is passed from node to node. Only the node with the token is authorized to transmit; all others are listeners.”)).

Futher, to the extent that the Office is equating Harris AN9614's "polled scheme" to a master/slave configuration, that position is based on a faulty understanding of the scope of "polling" in the relevant art and on an incorrect reading of Harris AN9614 and the '580 Patent. While polling can also take place in a master/slave system, *see* '580 Patent at 4: 6-9 (describing its master/slave protocol as a "polled multipoint communications protocol,") that discussion does not limit polling – which is a more general term in the relevant art -- to master/slave protocols but rather describes one aspect of the claimed protocol. In fact, there is no suggestion in Harris AN9614 that its "polled scheme" is taking place in anything other than the peer-to-peer communications protocol being discussed in Harris AN9614. *See* Harris AN9614 at 3. Akl, at ¶ 119. *See also infra* at § VII.C (discussing the need to maintain a peer-to-peer system in order to maintain compatibility with the IEEE 802.11 standard).

Without explaining its relevance, the Office cites to page 3 of Harris AN9614 in an attempt to establish that Snell teaches "a communication device capable of communication device capable of communicating according to a master in a master/slave relationship," as recited in claims 2 and 59. 3-31-17 Office Action at 12. *See also id.* at 15 ("to the extent that the preamble is given patentable weight, Snell teaches it"). Again, assuming the Office is relying on the discussion of the "polled scheme on page 3 of Harris AN9614, that page does not even mention "master" or "master/slave" but instead merely states:

With a low power watch crystal, the controller [of the PRISM chip set] can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and

for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any.

Harris AN9614 at 3. That is the full extent of the “polled scheme” discussion in Harris AN9614. Given the brevity of this discussion, and the fact that both Snell and Harris AN9614 are focused on peer-to-peer communications, one of ordinary skill in the relevant art would conclude that the discussion of a “polled scheme” refers to polling as part of peer-to-peer communications, not master/slave communications. Akl, at ¶ 114. Not even with hindsight would one of ordinary skill in the art have understood the Harris AN9614 discussion as suggesting more. *Id.* Thus, Harris AN9614 does not inherently disclose and would not have suggested that its polled scheme includes “a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave,” as required by claim 1 of the ’580 patent (and by the similar recitation of claim 58 of the ’580 patent). Akl, at ¶¶ 113-120.

**B. The Claimed At Least Two Different Types of Modulation Methods**

Each of the challenged claims requires that “the second modulation method is of a *different type* than the first modulation method.” As explained above, and confirmed by the Federal Circuit, the proper construction of “different types of modulation methods” is “*different families* of modulation techniques, *such as the FSK family* of modulation methods and the QAM family of modulation methods.” *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, Docket No. 2016-1729 (April 17, 2017) (“the *clearest* statement in the intrinsic record regarding the meaning of the “different types” limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not

diminish this unambiguous statement in the prosecution history.”) (emphases added). *See also supra* at § III.C (discussing the broadest reasonable interpretation of the claims).

In the 3-31-17 Office Action, apparently the Office is asserting that the “different type” limitation is met by the two PSK formats disclosed in Snell, namely the BPSK format and QPSK format.<sup>26</sup> *See* 3-31-17 Office Action, at 12 (citing Snell at Abstract, col. 1, ll. 58-61, co. 2, ll. 56-59, col. 2, l. 61-col. 3, l. 5, col. 6, ll. 64-66, col. 7, ll. 6-8, Figs. 2, 3, and 5,<sup>27</sup> Harris 4064.4, at 14-16). The Office’s assertion fails under the proper construction of “different types,” as there can be no dispute that BPSK format and QPSK are in the same family. Ak1, ¶ 123. Neither Yamano nor Kamerman cures this deficiency. *Id.*

Further, even under the Office’s overly broad, flawed claim construction in which it defines “Different types of modulation method[s]” to mean “modulation methods that are incompatible with one another,” the Office’s rejection fails because this requirement is not disclosed nor would it have been suggested by the cited references, as none discloses or would have suggested any incompatibility problem whatsoever. The Office does not define the term “incompatible,” but, in the context of the ‘580 Patent, first and second modulation methods may be incompatible when, for example, one modem using the first method cannot communicate with a second modem using the second method, i.e., when no common modulation method is shared.

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<sup>26</sup> There is no clear statement in the Office Action explaining what disclosure in the cited art satisfies the “at least two types of modulation methods.” *See* 3-31-17 Office Action *passim*.

<sup>27</sup> While the cited figures and Harris 4064.4 refer to “DBPSK” and “DQPSK,” the inclusion of “D” (Differential) does not change the family in which the modulation method falls. They remain in the same family. Ak1, at ¶ 123, note 13.

*See* '580 Patent at col. 1, ll. 45-65; Akl at ¶ 125. Importantly, whether two modulation methods are incompatible, as used in the '580 Patent, cannot be considered in a vacuum but must be considered in the context in which term or phrase is used. *See* Akl, at ¶ 125. In the case of Snell, there is no issue of incompatible modulation methods because Snell lacks an incompatibility problem. *See id.*

The lack of any incompatibility problem faced in the cited references explains why none of Snell (including Harris AN9614 and Harris 4064.4), Yamano, or Kamerman discloses the invention claimed in the '580 Patent, including the indication that “*communication from the master to the slave has reverted to the first modulation method.*” *See* the discussion *infra* at § VI.C. That incompatibility problem was identified and solved *in a master/slave setting*, as described in the '580 Patent, and was specific to a master/slave setting when a master attempts to communicate with a slave using an incompatible modulation method. Part of the solution claimed in the '580 Patent requires the master to indicate when communication has reverted to the first modulation method so that the master can communicate using the first modulation method rather than the incompatible method previously used. Again, the named inventors of the peer-to-peer communications systems described in the references were not faced with that problem. Instead they were faced with different problems that resulted from the fundamentally different ways their peer-to-peer systems accessed the shared medium. Akl, at ¶¶ 126-128. Those “fundamentally different ways” involve peer-to-peer communications, such as CSMA and CDMA types, instead of those between a master and a slave. Akl, at ¶ 128. *See also supra* at § V.A.1.

More specifically, the problems Snell (including Harris 4064.4), Yamano, and Kamerman were facing and attempting to address as the result of peer-to-peer communications, while at the same time attempting to increase data rates for communications between the stations, were, *e.g.*, collisions, interference, and the like. *See, e.g.*, Snell at col. 1, l. 64-col. 2, l. 19 (describing a problem with prior art DSSS); col. 2, ll. 22-30 (summarizing Snell's solution to the problem); col. 3, ll. 40-43 (discussing the need for a "clear channel"); col. 5, ll. 23-29 (identifying how "to avoid data collisions"); and col. 5, ll. 54-59 (identifying how to "combat multi-path and reduce the effects of interference"); Yamano, at col. 11, l. 62-col. 12, l. 9 (explaining the interference problem); col. 19, ll. 21-36 (explaining how to address the collision problem using CSMA system); Kamerman, at 6 (explaining how CSMA/CA "is designed to reduce the collision probability between multiple stations"); 11 (discussing the problem "due to mutilation of transmissions by interference"). Akl, at ¶ 129.

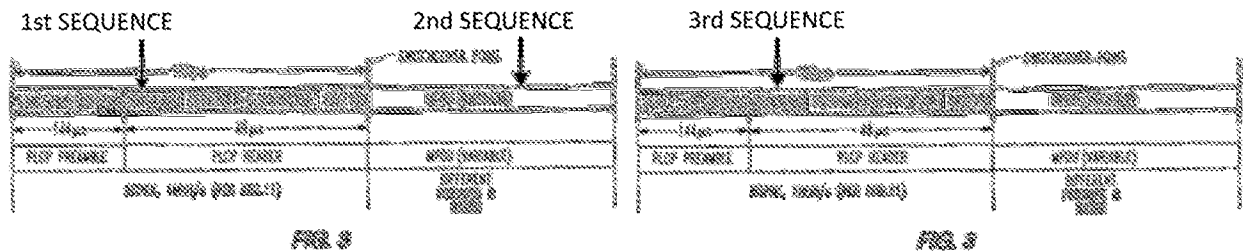
For these reasons, even under the Office's overly broad claim construction, the cited references neither identify nor address incompatible modulation methods, as are addressed in the '580 Patent in a master/slave setting when attempting to allow a master to communicate using different, incompatible modulation methods. Thus, they do not disclose and would not have suggested the problem of incompatible modulation methods, let alone the claimed solution to that problem provided in the '580 Patent. Without recognition of the incompatibility problem created by incompatible modulation methods in a master/slave setting, one skilled in the art would not have turned to any of the peer-to-peer disclosures in the cited references to solve that problem. Akl, at ¶ 130.

### C. The Claimed Third Sequence

Claims 2 and 59 require that “the transceiver [be] configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method *and* indicates that communication from the master to the slave *has reverted* to the first modulation method” (emphasis added). Thus, the “third sequence” requires more than just being “transmitted in the first modulation method,” *i.e.*, the word “and” requires it to contain information that “indicates that communication from the master to the slave has reverted to the first modulation method.” The cited references do not disclose and would not have suggested the claimed transceiver capable of transmitting the claimed “third sequence [that] is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” Akl, at ¶¶ 131-151. Again, the reason why Snell and the other references do not teach and would not have suggested the claimed invention is because of the fundamentally different systems and the very different problems/solutions presented due to those fundamental differences. *See* the discussion *supra* at § VI.A; Akl, at ¶¶ 94-97, 133. Only through a contrived application of disclosures in the prior art peer-to-peer communication systems is the Office able to arrive at the invention claimed in the ‘580 Patent, including the third sequence, a sequence that permits a master to communicate with one or more slaves using a modulation type that is incompatible with that used by other slaves in a master/slave system. *See id.* at 131, 133. Notably, the PTAB refused to do what the Office is now attempting to do.

Not even acknowledging the PTAB’s earlier determination regarding the third sequence limitation (see the discussion *supra* at § II.B), the Office posits that the PLCP preamble and the PLCP header of Snell in an Office-created “next packet” correspond to the claimed “third

sequence.” 3-31-17 Office Action at 13, 16 (citing Snell and stating that “PLCP preamble and PLCP header is ‘transmitted in the first modulation method’ e.g., BPSK, ... the data can be modulated according to a method different than BPSK, then a ‘third sequence,’ with its ‘SIGNAL’ field in the PLCP header, ‘indicates,’ e.g., using ‘0Ah,’ the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence”). *See also* 3-31-17 Office Action at 11 (citing Snell and taking substantially the same position). That is, the Office posits two instances of Fig. 3, as illustrated below: (1) a first instance that contains a “first sequence” (the SIGNAL field in the PLCP header) and a “second sequence” (the MPDU data field); and (2) an Office-created second instance (a “next packet”) that contains a “third sequence” (the SIGNAL field purportedly containing “0Ah” indicating that the MPDU data field is transmitted at 1 Mbps and BPSK).



With respect to the third sequence limitation alone, the rejection cannot stand for at least four reasons. First, the citations relied on by the Office merely support the position that, while the header is always transmitted at 1 Mbit/s BPSK, the “MPDU is variable,” Snell at 6:62-65, and may be sent using BPSK or QPSK. *See* Snell 7:10-14 (“The variable data *may be* modulated and demodulated in different formats than the header portion ...”) (emphasis added). The PTAB



previously considered substantially the same argument with respect to substantially the same disclosure in Boer<sup>28</sup> and concluded such a disclosure was not sufficient to even institute an IPR of claims 2 and 59 because that disclosure failed to show “how the SIGNAL and SERVICE fields might be deemed, as alleged, to ‘indicate’ that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2” and claim 59. *See* ‘518 Institution Decision, at 13-15 (quoted more extensively *supra* at § II.B). The Office fails to acknowledge, let alone address, this conclusion.

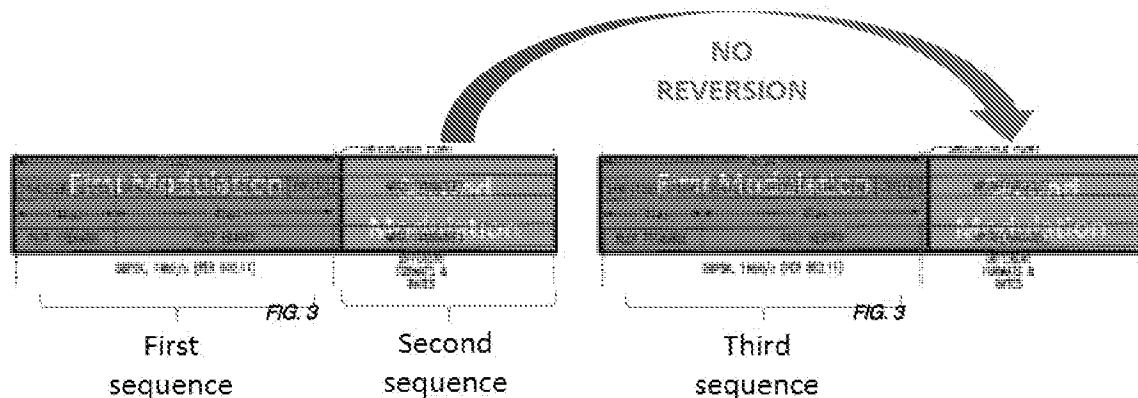
Second, Snell’s SIGNAL field in the PLCP header only “indicates” the modulation format and rate of the subsequent MPDU for that packet (Snell at 6:52-59), but does not explicitly or inherently teach that the SIGNAL field also “indicates that communication [*i.e.*, the MPDU data] from the master to the slave has reverted to the first modulation method.” Thus, the SIGNAL field cannot be the claimed “third sequence.”

More specifically, claims 2 and 59 require a very specific ordering of sequences: a “first sequence” in a “first modulation method,” followed by a “second sequence” in a “second modulation method,” followed by a “third sequence” in a “first modulation method,” whereby the “third sequence” indicates that subsequent “communication” in a next set of information will “revert” to the “first modulation method” (and not use the “second modulation method” of the “second sequence”). Snell never teaches or suggests this specific ordering of sequences and only includes one instance of Fig. 3. Thus, Fig. 3 does not explicitly teach the claimed “reversion,” nor is that teaching inherent in Snell.

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<sup>28</sup> *See* a comparison of the way Snell’s Fig. 3 and Boer’s Fig. 4 were presented in Exhibit D.

Even the Examiner's imagined two instances of Fig. 3 does not teach the claimed "reversion," as both packets in the Examiner's scenario are identical. Thus, if based on Snell's disclosure, one assigns first and second modulation methods to the SIGNAL and data fields (i.e., in the claim's terms, to the first and second sequences) in the first instance of Fig. 3, then one must assign the same first and second modulation methods to the second instance of Fig. 3, i.e., to its header and data field. Such a repetition does not meet the claim limitation requiring reversion to the first modulation method:



Additionally, even assuming that the data *may be* in one of four formats, there is no teaching or suggestion in Snell *requiring* the claimed reversion, which is what is required by law for an inherency teaching. The fact that one of the formats may result in using the first modulation method, it is at least equally possible it will not do so, particularly given Snell's goal to *increase* the data rate. Thus, the use of two Figs. 3 does not inherently meet the claims' requirement that the SIGNAL field "indicate[] that communication from the masterto the slave has reverted to the first modulation method."

Summarizing, nowhere does Snell explicitly or inherently teach two different instances of Fig. 3—much less a first instance of Fig. 3 with a MPDU data field modulated using QPSK and

an immediately subsequent second instance of Fig. 3 with a SIGNAL field indicating its MPDU data field will “revert” to using BPSK modulation with a 1 Mbps data rate. Snell does not disclose and would not have suggested different versions of its Fig. 3 packet and SIGNAL field functions combined in the way the Office has attempted to combine them without using hindsight, i.e., in view of the ‘580 Patent teachings.

Third, Snell does not have and would not have suggested a master/slave relationship and therefore could not “indicate[] that communication from the master to the slave has reverted to the first modulation method.” Further, even assuming, *arguendo*, that it would have been obvious to modify Snell to be a master/slave system, it would use the same signal format of Fig. 3 of Snell which, as described above, does not explicitly or inherently teach a “third sequence . . . [that] indicates that communication . . . has reverted to the first modulation method.” *See* Akl, at ¶ 142.

Fourth, Snell discloses “switch[ing] on-the-fly between different data rates and/or formats,” Snell at 2:29-30, but not in the manner claimed or for the reason behind the ‘580 claims. More specifically, the ability of Snell’s transceiver to “switch on-the-fly” is not a teaching of sending multiple packets of the signal format shown in Fig. 3 that switch from using a second modulation method *for the payload portion* of the first packet to using a first modulation method *for the payload portion* of the second packet (labelled the “next packet”). *See* Snell at Fig. 3. That is, Snell’s on-the-fly switching does not teach and would not have suggested that the claimed “third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method,” as the Office posits. To the contrary, the on-the-fly switching of Snell relates to a

modulation switch between the PLCP header and the MPDU *variable* data portion *within a single* packet having the signal format shown in Fig. 3. *See* Snell at Fig. 3 (clearly showing the “switchover point” to be between the PLCP header and the MPDU variable data portion of the signal format), 3:18-20 (“The carrier tracking loops permit switching to the desired format *after the header* and on-the-fly.” (emphasis added)), 7:10-14 (“The *variable data* may be modulated and demodulated in *different formats than the header portion* to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” (emphasis added)). Snell does not disclose and would not have suggested first and second packets of the signal format shown in Fig. 3 having payload portions modulated using different methods and certainly does not disclose and would not have suggested the specific second packet the Office created using the claimed invention as a roadmap.

Accordingly, Snell does not disclose and would not have suggested that Snell’s transceiver “is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” In fact, there would have been no motivation for Snell to “indicate” a reversion to “the first modulation method” because Snell can transmit/receive using all modulation methods. *Akl*, at ¶ 145. In other words, there was no incompatibility issue that required such notification when a switch in modulation methods is made. *Id.* And that is what the ‘580 Patent is all about. *See the discussion supra* at § IV.

Neither Yamano nor Kamerman discloses or would have suggested the claimed third sequence. Yamano is only applied for its disclosure of a destination address in an effort to

provide an address “for an intended destination of the payload portion” as recited in independent claim 1 (3-31-17 Office Action at 14), and an address “for an intended destination of the second sequence,” as recited in independent claim 58 (3-31-17 Office Action at 16-17), and is not applied to the “third sequence” limitation, so it will not be further discussed here.

As to Kamerman, the Office concludes that “[a] person of ordinary skill in the art would have been motivated and found it obvious to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell’s system for communicating data packets modulated according to different modulation methods to advantageously maximize the data transfer rate and adapt to changing channel conditions.” Office Action at 19 (citing Kamerman at 6, 11-12).

Kamerman, *just like previously and fully considered Boer*,<sup>29</sup> discloses a transmission rate that “falls back” during higher load conditions and that “goes up” during load conditions that occur “most of the time.” Kamerman at 11. There is no teaching or suggestion that it would “fall back” to address an incompatibility issue when a master – which it does not have and would not have suggested – wants to communicate with a slave –which it does not have and would not have suggested. Further, Kamerman is completely silent about how the transceiver would indicate changes to the transmission rate. Just like the disclosure in Boer, nothing in Kamerman relied on by the Office requires that the transceiver in Kamerman “indicate[] that communication

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<sup>29</sup> See Boer, at 7:12-8:16. See also Akl, at ¶¶ 64-68 and the discussion regarding no substantial new question *supra* at § II.F.

from the master to the slave has reverted to the first modulation method.” Rather, Kamerman merely summarizes Boer’s, his, and other’s work<sup>30</sup> described in the Boer patent and does not provide any further information relevant to the patentability of claims 2 and 59.

Notably, maximizing the data transfer rate and adapting to changing channel conditions in a peer-to-peer communications system – objectives of Boer and Kamerman -- would not have provided the solution to the incompatibility problem identified and claimed in the ‘580 Patent, i.e., it would not have provided a “transceiver configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” Claims 2 and 59.

Instead, if Snell were modified in the proposed manner (i.e., implementing Kamerman’s automatic rate selection in Snell’s system), Snell’s transceiver would increase the transmission rate during lower load periods (e.g., as indicated by “a number ... of successive correctly acknowledged packet transmissions”) and would decrease the transmission rate during higher load periods (e.g., as indicated by “unacknowledged packet transmissions”). *See* Kamerman at 11. Such modification would not provide the claimed third sequence, as Kamerman’s rationale as to when to change modulation methods has *nothing to do with* making a change in modulation method so that a master can communicate with a particular slave using a different modulation method to address a potential incompatibility issue. For that reason alone, one of ordinary skill

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<sup>30</sup> Kamerman is a named inventor on the Boer et al. patent. Again, see the discussion *supra* at § II.F.

would not have been motivated by Kamerman to vary the modulation method when needed to address the '580 Patent incompatibility problem as done in the '580 Patent, *i.e.*, to provide a “third sequence [that] indicates that communication from the master to the slave has reverted to the first modulation method.”

**VII. It Would Not Have Been Obvious to Adapt Snell to A Master/Slave System or Combine Snell with Kamerman and/or Yamano**

**A. It Would Not Have Been Obvious to Adapt Snell To A Master/Slave System and Solve The Problem Identified and Solved in the ‘580 Patent Because of The Fundamental Differences Between Peer-to-Peer and Master/Slave Communications**

All the outstanding rejections must be withdrawn because they share a common, significant deficiency – one that weighs against the Office’s proposed combinations. As previously noted, none of Snell, Yamano, or Kamerman discloses communications in a master/slave setting *at all*, even if Harris AN9614 and Harris 4064.4 had been successfully incorporated by reference into Snell (which they have not been<sup>31</sup>). *See* the discussion *supra* at § VI.A; Akl, at ¶¶ 101-120, 152. And, even if adapting Snell to a master/slave setting were suggested (which it is not), it would not have been obvious to combine the art as the Office has proposed in a way that would have yielded the invention claimed in the ‘580 Patent because there was no recognition of the problem identified and solved in the ‘580 Patent – a problem specific to the master/slave setting when a master attempts to communicate with a slave using an incompatible modulation method. *See* detailed discussion *supra* at § IV.B-C; Akl, at ¶¶ 81-97, 153. The named inventors of the systems described in the references were not faced with that problem and thus would have had no reason to invent the ‘580 solution. Akl, at ¶ 154. Instead they were faced with different

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<sup>31</sup> As earlier argued, the evidence of record does not establish that these two Harris Documents are prior art. *See supra* at § V.A-C. In any case, neither discloses a master/slave system. Akl, at ¶¶ 112-120. The “polling” briefly discussed in Harris 9614 does not necessarily disclose a master/slave system, *see id.*, does not explain how Snell would be adapted to address the problem the ‘580 solved, and in any case is not particularly identified as being incorporated by reference. *See* the discussion below, at §§ V.D, VI.A.3.



problems that resulted from the fundamentally different ways their systems accessed the shared medium. Akl, at ¶¶ 133, 154. As previously noted, those “fundamentally different ways” involved peer-to-peer communications, such as CSMA and CDMA types, instead of those between a master and a slave. *See supra* at § VI.A.1; Akl, at ¶¶ 94-97, 104-109, 154.

**B. The “Polled Scheme” Disclosure in Harris AN9614 is Limited to “Single Rate” Applications and Thus Does Not Disclose and Would Not Have Suggested More than One Modulation Method**

The disclosure in Harris AN9614 at page 3 is not of a communications system using multiple modulation methods, as claimed in the ‘580 Patent. In addition to the limitations described above, Harris AN9614’s “polled scheme” appears in a section of Harris AN9614 dedicated to describing a protocol where burst transmissions are used for achieving a “Low Average Data Rate” by operating the PRISM 1 chip at a single, low data rate of 1 MBPS:

The system approach is to accept the 1 MBPS data rate of the radio as long as the achievable range is acceptable, and use it in a short burst mode which is consistent with its packet nature. With a low power watch crystal, the controller can keep adequate time to operate either in a polled or time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. ... With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

Harris AN9614 at 3.

There is nothing in Harris AN9614 suggesting that its 1 MBPS system should or even could be used in combination with the higher data rate schemes described in the body of Snell. Put another way, there is nothing in Harris AN9614 suggesting that its 1 MBPS polled scheme was intended to be used to accomplish, for example, the scheme depicted at col. 6, lines 55-60 of Snell, which the Office has mapped to other elements in the claim.

In order for the Office's rejection to stand, the elements in Snell/Harris must be "arranged or combined in the same way as recited in the claim," regardless of whether it is based on expressed or inherent disclosure. *See, e.g., Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1368-71 (Fed. Cir. 2008) (holding that "unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102" and citing numerous cases supporting its holding); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) ("Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim."). The Office has not shown such an arrangement.

Rather Harris AN9614 suggests adapting its "high data rate configuration" to one using 1 MBPS only in order to avoid "the design considerations ... of concern" with high data rate configurations. *See* Harris AN9614 at 3. Significantly, this suggestion is directly contrary to Snell's goal of obtaining higher variable data rates "from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK," Snell at 5:30-32. Thus, one of ordinary skill in the art reading Snell and Harris AN9614 would have understood the discussion in Harris AN9614 of a polled scheme to be inapplicable to the multi-data rate scheme that is the focus of Snell. Akl, at ¶ 159. Accordingly, even if Harris AN9614 were a publication (it was not), and the "polled scheme" of Harris AN9614 were incorporated by reference into Snell (it was not), and the disclosure of a polled scheme in Harris AN9614 would have suggested a "master/slave relationship" (it would not have), the combination of Snell with Harris AN9614 would not have

yielded or suggested the communications system claimed in the '580 Patent that requires at least two modulation methods. Akl, at ¶ 159.

**C. One of Ordinary Skill Would Not Have Been Motivated To Adapt Snell to a Master/Slave System and Then Combine with Kamerman Lacking Any Teachings Regarding The Proposed IEEE 802.11 Standard**

Snell's disclosure relates to an extension of the "proposed IEEE 802.11 standard."<sup>32</sup>

Significantly, while Snell may have been privy to the proposed standard through the involvement of his employer (Harris) on the standard committee, there is no evidence that the proposed standard itself was publicly known at that time. In fact, the Office has already found that, as of the priority date of the '580 patent, the draft IEEE 802.11 standard was not available to anyone outside the IEEE 802.11 Working Group:

Notably absent ... from the Petition and Mr. O'Hara's declaration are any assertions or evidence in support of the availability of Draft Standard to individuals other than members of the 802.11 Working Group and those who already knew about Draft Standard or the July 8–12 meeting of the 802.11 Working Group. We do not find sufficient argument or evidence to indicate that the July 8–12 meeting of the 802.11 Working Group (or any other 802.11 Working Group meeting) was advertised or otherwise announced to the public. Nor do we find sufficient argument or evidence that any individual who was not already a member of, or otherwise aware of, the Working Group would have known about Draft Standard such that he or she would have known to request a copy or ask to be added to an email list for access to the document.

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<sup>32</sup> See, e.g., Snell at 1:47-50 (describing "a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard"); Snell at 5:30-32 (disclosing "an extension of the PRISM 1 product from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK"); and Snell at 4:42-43, 5:30-32 (describing "a wireless transceiver 30" that "may be readily used for WLAN applications in the 2.4 GHz ISM band *in accordance with the proposed IEEE 802.11 standard.*") (emphasis added).

*Samsung Electronics Co. LTD v. Rembrandt Wireless Technologies, LP*, IPR2014-00514, Paper No. 18 at 7-8 (PTAB September 9, 2014).<sup>33</sup>

In view of the above, it is clear that the Office's assertion that the draft IEEE 802.11 standard was "*available at that time*"<sup>34</sup> (3-31-17 Office Action, at 19) is incorrect. Moreover, the question of the lack of public availability of the draft standard has already been decided by the Office, and cannot be revisited in these reexamination proceedings.

Without access to the proposed IEEE 802.11 standard, one of ordinary skill reading Snell would know only that the proposed standard used a collision avoidance protocol (like CSA), as that is the only protocol disclosed in Snell. Such a conclusion would have been buttressed by Kamerman, which similarly described the proposed standard only in the context of a CSMA/CA (carrier sense multiple access with collision avoidance) protocol. Akl, at ¶ 163.

Despite the indications in both Snell and Kamerman tying the proposed IEEE 802.11 standard to a collision avoidance protocol, it is the Office's position that, prior to combining Snell and Kamerman, Snell would have been converted to a master/slave system (although,

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<sup>33</sup> See also *Samsung Electronics Co. LTD. v. Rembrandt Wireless Technologies, LP*, IPR2014-00515, Paper No. 18 at 6-10 (PTAB September 9, 2014); *Samsung Electronics Co. LTD v. Rembrandt Wireless Technologies, LP*, IPR2014-00889, Paper No. 8 at 7-10 (PTAB December 10, 2014); *Samsung Electronics Co. LTD v. Rembrandt Wireless Technologies, LP*, IPR2014-00890, Paper No. 8 at 7-10 (PTAB December 10, 2014); *Samsung Electronics Co. LTD v. Rembrandt Wireless Technologies, LP*, IPR2014-00891, Paper No. 8 at 8-12 (PTAB December 10, 2014).

<sup>34</sup> "Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard *available at that time*." 3-31-17 Office Action, at 19 (emphasis added).

again, it is not clear how that would be done). Assuming that were done, there would be no reasonable expectation that the Snell transceiver adapted to a master/slave system would function in accord with the draft IEEE 802.11 standard, particularly when both Snell and Kamerman discussed the proposed standard only in connection with collision avoidance protocols. *See* the discussion *supra* at § VI.A.1; Akl, at ¶ 164.

In other words, it would not have been obvious to combine Snell with Kamerman *after adapting Snell to a master/slave system* because there is no evidence that Snell would remain compliant with the draft IEEE 802.11 standard. That would have discouraged the skilled artisan from making the suggested combination, as one of the intended purposes of Snell invention was to maintain compatibility with the proposed IEEE 802.11 standard. *See* Snell at 1:47-50 (“PRISM 1 ... is compatible with the proposed IEEE 802.11 standard”), 4:42-46 (a wireless transceiver 30 used “in accordance with the proposed IEEE 802.11 standard”), 5:30-32 (“[t]he present invention provides an extension of the PRISM 1 product”); Akl, at ¶ 165. Without access to any teachings of the proposed IEEE 802.11 standard, one of ordinary skill in the art would not have any reasonable expectation that Snell’s transceiver would still act in accordance with the proposed IEEE 802.11 standard if it were modified to act in a master/slave relationship instead of a peer-to-peer relationship, such as a carrier sense multiple access with collision avoidance (CSMA/CA) relationship. Akl, at ¶ 166. Accordingly, one of ordinary skill in the relevant art would have been discouraged from modifying Snell’s transceiver as suggested by the Office without a reasonable expectation that it would function as intended, *i.e.*, in accordance with the proposed IEEE 802.11 standard. *See, e.g., In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984)) (prior art reference “teaches away” from proposed modification because the prior art

apparatus “would be rendered inoperable for its intended purpose”), cited in *In re Urbanski*, 809 F.3d 1237, 1243 (Fed. Cir. 2016) and MPEP § 2143.01(V) (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”). *See also* Akl, at ¶ 167. Thus, it would not have been obvious to modify Snell’s transceiver to act in the role of the master according to a master/slave relationship and then combine Snell as modified with Kamerman. Akl, at ¶ 169.

Similarly, given that peer-to-peer communication systems, such as that described in Snell, are fundamentally different than master/slave systems (*see supra* at § VI.A.1), one of ordinary skill in the art would have been further discouraged from making the proposed modification of Snell as that fundamental difference would have weighed against having any reasonable expectation that Snell, as modified, would still act in accordance with the proposed IEEE 802.11 standard or would have provided predictable results. Akl, ¶ 168. *See also* *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (U.S. 2007) (“a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions”); *L.A. Biomedical Research Inst. at Harbor-UCLA Med. Ctr. v. Eli Lilly & Co.*, 849 F.3d 1049 (Fed. Cir. Feb. 28, 2017) (citing *Genzyme Therapeutic Prods. Ltd. P’ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1373 (Fed. Cir. 2016)) (“In the case of a combination of references that together disclose all the limitations of the claimed invention, the adjudicator must determine ... whether a person of skill in the art at the time of the invention would have had a ‘reasonable expectation of success’ in pursuing that combination.”); *PersonalWeb Techs., LLC v. Apple, Inc.*, 848 F.3d 987 (Fed. Cir. Feb. 14, 2017) (citing *In re NuVasive, Inc.*, 842 F.3d 1376, 1381-82

(Fed. Cir. 2016); *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333-34 (Fed. Cir. 2016); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364-67 (Fed. Cir. 2015)) (“the Board had to find that a person of ordinary skill in the art would have been motivated to combine the prior art in the way claimed ... and had a reasonable expectation of success in doing so”); MPEP § 2143.02 (citing *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)) (“The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success.”); MPEP § 2143.02 (“Obviousness does not require absolute predictability, however, at least some degree of predictability is required.”); MPEP § 2143.01(III) (citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)) (“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art.”).

Thus, *if* Snell *were* adapted to a master/slave system as the Office suggests (in spite of no motivation to do so), there is no evidence it could have been combined with Kamerman and still conform to the draft IEEE 802.11 standard, and, in fact, the skilled artisan would have been discouraged from making such a combination. Akl, at ¶¶ 161-169.

**D. It Would Not Have Been Obvious to One Of Ordinary Skill To Adapt Snell To A Master/Slave System and Then Combine with Yamano to Satisfy The “Addressed For An Intended Destination” Limitation in Claims 2 and 59**

Claim 2 of the ‘580 patent requires a transceiver that is capable of sending a transmission comprising “a group of transmission sequences” that “is structured with at least a first portion and a payload portion” and “is addressed for an intended destination of the payload portion.”

Claim 59 requires a transceiver that is capable transmitting “at least one message” with first and

second sequences and that “is addressed for an intended destination of the second sequence.”

Neither of these limitations is disclosed by or would have been obvious in view of the cited art.

Akl, at ¶ 170.

Snell is silent regarding a destination address.<sup>35</sup> Akl, at ¶ 171. The Office instead relies on Yamano as disclosing a destination address,<sup>36</sup> asserting that “[a] person of ordinary skill in the art would have been motivated and found it obvious to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teaching of a communication system.” 3-31-17 Office Action at 14, 16-17. *See also* Akl, at ¶ 172.

Patent Owner respectfully disagrees. The goal of Snell is to increase the data rate at which information is communicated.<sup>37</sup> However, the preamble of Snell is transmitted at the

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<sup>35</sup> *See* Snell *passim*. *See also* 3-31-17 Office Action, at 14 (“Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion.”), 16 (“Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence.”).

<sup>36</sup> 3-31-17 Office Action, at 14 (citing Yamano at Fig. 8, 19:63-64, 20:1-7, 20:54-59), 16 (citing Yamano at Fig. 8, 19:63-64, 20:1-7, 20:54-59). At the cited portion, Yamano that its packet is in the preamble, i.e., a packet 700 having a preamble 701 that “can include information which identifies ... packet source and destination addresses.” Yamano at 20:1-7. *See also id.* at 20:54-59 (disclosing that, “[w]hen the preamble in a burst-mode packet includes the destination address of the packet, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.”); and Fig. 8.

<sup>37</sup> *See, e.g.*, Snell at 2:24-25 (“permitting operation at higher data rates than conventional transceivers”), 2:28-29 (“permit operation at higher data rates”); 5:30-34 (“The present invention provides an extension of the PRISM 1 product from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK” and “allows the same RF circuits to be used for higher data rates.”), 7:10-14 (“increase the data rate”).



lowest (i.e., 1 Mbit/s) data rate.<sup>38</sup> Therefore, adding a destination address to the preamble of Snell would increase the amount of information transmitted at the lowest data rate, frustrating Snell's goal of increasing the data rate. Akl, at ¶ 174. For at least this reason, it would not have been obvious to one of ordinary skill in the relevant art to combine Yamano's teaching of a destination address in a preamble with Snell. See Akl, at ¶ 175.

In addition, given that the proposed IEEE 802.11 standard was not publicly available, one of ordinary skill would have been concerned that Snell's system would not remain compliant with the proposed IEEE standard if Snell was modified to include address information in the header. Akl, at ¶ 176. Again, that would have discouraged the skilled artisan from making the suggested combination, as one of the intended purposes of Snell invention was to maintain compatibility with the proposed IEEE 802.11 standard. Akl, at ¶ 176. Without access to the teachings of the proposed IEEE 802.11 standard, one of ordinary skill in the art would not have any reasonable expectation that Snell's transceiver would still act in accordance with the proposed IEEE 802.11 standard if it were modified to include address information in the header. Akl, at ¶ 177. For this additional reason, one of ordinary skill in the relevant art would have been discouraged from modifying Snell's transceiver to include Yamano's address information in the header (as suggested by the Office) without a reasonable expectation that it would function as intended, i.e., in accordance with the proposed IEEE 802.11 standard. See Akl, at ¶ 178.

---

<sup>38</sup> *Snell* at 6:64-66 ("The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker. SYNC and SFD are internally generated."). See *also id.* at Fig. 3, 6:51-59, 7:10-14.

**VIII. Litigation**

Pursuant to 37 C.F.R. § 1.565(a), Patent Owner hereby informs the Office of prior and concurrent proceedings in which the patent is or has been involved by listing them in Exhibit A.

Respectfully submitted,

Date: June 30, 2017

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**CERTIFICATE OF SERVICE**

It is hereby certified that on this 30<sup>th</sup> day of June, 2017, the foregoing **REPLY TO OFFICE ACTION** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,808.

PATENT NO. 8023580.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Yuzhen Ge

Primary Examiner

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## REEXAMINATION OF U.S. PATENT 8,023,580

### I. ACKNOWLEDGMENTS

On Sep. 12, 2016, a third-party requester (“**Requester**”) filed a request (“**Request**”) for *ex parte* reexamination of claims 2 and 59 of US Patent 8,023,580 (“**580 patent**”) which issued  
5 to Bremer. The `580 patent was filed on Aug. 19, 2009 with application number 12/543,910 (“910 application”) and issued on Sep. 20, 2011.

On Sep. 27, 2016, the Office mailed an order (“**Sep 2016 Order**”) granting reexamination of claims 2 and 59 of the `580 patent.

On Mar. 31, 2017, the Office mailed a non-final office action (“**Mar 2017 Non-Final  
10 Office Action**”).

On Jun. 30, 2017, the Patent Owner filed a response (“**Jun 2017 Response**”) to the Mar 2017 Non-Final Office action. The Jun 2017 Response includes, among other things, remarks (“**Jun 2017 Remarks**”) and declarations by Robert Aki (“**Jun 2017 Aki Dec**”) under 37 C.F.R. §1.132. No claims has been amended.  
15

### II. PRIORITY CLAIMS

Based upon a review of the `580 Patent, the Examiner finds that the `580 patent, is a continuation of US Patent Application 11/774,803, filed on Jul. 9, 2007, now patent US 7,675,965, which is continuation of US Patent Application 10/412,878, filed on Apr. 14, 2003,  
20 now patent US 7,248,626, which is continuation-in-part of application 09/205,205, filed on Dec. 4, 1998, now patent US 6,614,838. The 09/205,205 application also claims priority to US provisional application 60/067,562, filed on Dec. 5, 1997.

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Based upon a review of the 910 application itself, the Examiner finds that the `580 patent does not claim any foreign priority.

Because the effective filing date of the 910 application or the `580 patent is before March 16, 2013, the AIA First Inventor to File (“AIA-FITF”) provisions does not apply. Instead, the earlier ‘First to Invent’ provisions apply.

### III. PRIOR ART

- i. U.S. Patent No. 5,982,807, filed on Mar. 17, 1997 and issued on Nov. 9, 1999, to Snell, J. (“Snell”).
- ii. U.S. Patent No. 6,075,814, filed on May 9, 1997 and issued on Jun. 13, 2000, to Yamano, L., et al. (“Yamano”).
- iii. Andren, C. et al., “Using the PRISM™ Chip Set for Low Data Rate Applications,” Harris Semiconductor Application Note No. AN9614, March 1996 (“Harris AN9614”).
- iv. “HSP3824 Direct Sequence Spread Spectrum Baseband Processor,” Harris Semiconductor File No. 4064.4, Oct. 1996 (“Harris 4064.4”).
- v. Kamerman, A., “Throughput Density Constraints for Wireless LANs Based on DSSS,” IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3 (“Kamerman”).
- vi. Upender et al., “Communication Protocols for Embedded Systems,” Embedded Systems Programming, Vol. 7, Issue 11, November 1994. - (“Upender”).



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vii. Admitted Prior Art, Figs. 1 and 2, col. 3, line 40-col. 4, line 50 of the `580 patent (see IPR2014-00518, Final Written Decision, p. 13) (“APA”)

viii. U.S. Patent No, 5,706,428, filed Mar. 14, 1996, issued Jan. 6, 1998 to Boer (“Boer”).

5

#### IV. CLAIM INTERPRETATION

During examination, claims are given the broadest reasonable interpretation consistent with the specification and limitations in the specification are not read into the claims. See MPEP § 2111 et seq.

10

#### V. CLAIM REJECTIONS - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

15

A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

20

**Claims 2 and 59 are rejected under pre-AIA 35 U.S.C. 102 (e) as being anticipated**

25

**by Snell.**

Regarding claim 1, Snell teaches a communication device (Abstract, Figs. 1-2 and 5-8) capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the

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master to the slave (the transceiver of Snell is capable of such communication), the device comprising:

a transceiver (Fig. 1), in the role of the master according to the master/slave relationship, for (all the limitations after “for” is intended use and do not further limit the structure of the transceiver, therefore is not given patentable weight) sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

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Regarding claim 58, Snell teaches a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a

5 transceiver (Fig. 1), in the role of the master according to the master/slave relationship, capable of **(the function below not performed, or is intended use, will not have patentable weight)** transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,

10 and wherein the transceiver is configured to transmit messages (Fig. 1, Fig. 3 and col. 6, lines 54-64) with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and wherein the at least one

15 message is addressed for an intended destination of the second sequence, and the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence (Figs. 1, 3, col. 6, lines 54-64 and associated descriptions).

20

Regarding claims 2 and 59, Snell teaches the device of claim 1 and claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence (Fig. 1),

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wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method (**does not further limit the transceiver**, also met by Fig. 3, PLCP preamble and PLCP header is “transmitted in the first modulation method” e.g., BPSK, col. 6, lines 35-36, where the “third  
5 sequence,” e.g., “SIGNAL” field in PLCP header, “indicates,” e.g., using “OAh,” the modulation type, e.g., BPSK, used for modulating the MPDU data of the second packet.).

## VI. CLAIM REJECTIONS - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all  
10 obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not  
15 be negated by the manner in which the invention was made.

### **A. Claims 2 and 59 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Snell in view of Yamano.**

20 Regarding claim 2, as explained above in Section V, Snell teaches the transceiver as recited claims 2 and 59. To the extent that Patent Owner intends to argue that the intended use limitations should be given patentable weight, Snell teaches

a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a  
25 master communication from the master to the slave (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1; Harris AN9614 at p. 3, Harris AN9614

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is incorporated by reference at col. 5, lines 2-7 of Snell; Harris AN9614 at p.3 discloses poll scheme/protocol or master/slave relationship ), the device comprising:

a transceiver (Fig. 1), in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method (Abstract, col. 1, lines 58-61, col. 2, lines 56-59, col. 2, line 61-col. 3, line 5, col. 6, lines 64-66, col. 7, lines 6-8, Figs. 2, 3, and 5; Harris 4064.4 at 14-16, Harris 4064 is incorporated by reference at col. 5, lines 11-17 of Snell), wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion (col. 6, lines 35-36, col. 6, lines 64-66 and col. 7, lines 5-14, Fig. 3), wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion (col. 6, lines 35-36, 52-59 and 64-66 and col. 7, lines 1-2 and 5-14, Fig. 3; Harris 4064.4 at pp. 15-16 and Fig. 10), and

wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method (Snell, col. 2, line 61-col. 3, line 5, col. 6, lines 35-36 and 64-66, col. 7, lines 1-2 and 5-14, Figs. 2, 3, and 5, and Harris 4064.4 at 15-16, Fig. 10) and

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the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence (Snell, col. 2, line 61-col. 3, line 5, col. 6, lines 35-36 and 64-66, col. 7, lines 1-2 and 5-14, Figs. 2, 3, and 5, and Harris 4064.4 at 15-16, Fig. 10).

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method (col. 1, lines 55-57, col. 2, lines 27-30 and 61-63, col. 6, lines 35-36, 52-59 and 64-66, col. 7, lines 1-2 and 5-14, Fig. 3, PLCP preamble and PLCP header is “transmitted in the first modulation method” e.g., BPSK, col. 6, lines 35-36, the data can be modulated according to a method different from BPSK, then a “third sequence,” with its “SIGNAL” field in PLCP header, “indicates,” e.g., using “OAh,” the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence).

However Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion.

Yamano discloses transmitting a group of transmission sequences or messages, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.” (Fig. 8, col. 19, 63-64, col. 20, lines 1-7 and 54-59).

Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (see, e.g., Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates (see, e.g., Snell at 2:15-17, 6:52-59;

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Yamano at 19:54-56). It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A person of ordinary skill in the art would have been motivated and found it obvious to use Yamano's teaching of including a destination address in the data packet in implementing Snell's teachings of a communication system for transmitting data packets to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate.

The combination of Snell and Yamano is also supported by KSR Rationale (C), "Use of known technique to improve similar devices (methods, or products) in the same way" (see MPEP 2143) because the method of including a destination address of Yamano can be used to improve the system of Snell so that the receiving device of Snell can filter out packets which it does not need to demodulate.

Regarding claim 59, as explained above in Section V, Snell teaches the transceiver as recited claim 59. To the extent that Patent Owner intends to argue that the intended use limitations should be given patentable weight, Snell teaches

Snell teaches a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising: a transceiver (to the extent that the preamble is given patentable weight, Snell teaches it at col. 1, lines 34-46, 47-50, and 55-57, col. 4, lines 27-30, col. 4, lines 42-47 and col. 5, lines 2-7 and 18-21, Fig. 1, Harris AN9614 at p. 3, Harris AN9614 is incorporated by reference at col. 5, lines 2-7 of Snell), in the role of the

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master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method (Abstract, col. 1, lines 58-61, col. 2, lines 56-59, col. 2, line 61-col. 3, line 5, col. 6, lines 64-66, col. 7, lines 6-8, Figs. 2, 3, and 5; Harris 4064.4 at 14-16, Harris 4064 is incorporated by reference at col. 5, lines 11-17 of Snell), and wherein the transceiver is configured to transmit messages (Fig. 1, Fig. 3 and col. 6, lines 54-64) with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method (col. 6, lines 35-36, 52-59 and 64-66 and col. 7, lines 1-2 and 5-14, Fig. 3; Harris 4064.4 at pp. 15-16 and Fig. 10), and the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence (col. 6, lines 35-36, 52-59 and 64-66 and col. 7, lines 1-2 and 5-14, Fig. 3; Harris 4064.4 at pp. 15-16 and Fig. 10).

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method (col. 1, lines 55-57, col. 2, lines 27-30 and 61-63, col. 6, lines 35-36, 52-59 and 64-66, col. 7, lines 1-2 and 5-14, Fig. 3, PLCP preamble and PLCP header is “transmitted in the first modulation method” e.g., BPSK, col. 6, lines 35-36, the data can be modulated according to a method



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different from BPSK, then a “third sequence,” with its “SIGNAL” field in PLCP header, “indicates,” e.g., using “OAh,” the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence.).

5 However Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence.

Yamano discloses transmitting a group of transmission sequences or messages, including a preamble and main body, and that the preamble includes a destination address “for an intended destination of the payload portion.” (Fig. 8, col. 19, 63-64, col. 20, lines 1-7 and 54-59).

10 Snell and Yamano are in the same field of art, with both relating to transmitting data packets over a network (see, e.g., Snell at 1:55-58, 2:61-63, 2:66-3:3, 5:18-21, 6:48-63, Fig. 3; Yamano at 1:1-29, 19:54-20:33, Fig. 8), at varying rates (see, e.g., Snell at 2:15-17, 6:52-59; Yamano at 19:54-56). It was well-known in the art, as demonstrated by Yamano, that packets can be advantageously addressed for an intended destination. A person of ordinary skill in the art would have been motivated and found it obvious to use Yamano’s teaching of including a  
15 destination address in the data packet in implementing Snell’s teachings of a communication system for transmitting data packets to advantageously specify which receiver the data is intended for and to beneficially reduce processing requirements of receiving devices by allowing the receiving device to filter out packets which it does not need to demodulate.

20 The combination of Snell and Yamano is also supported by KSR Rationale (C), “Use of known technique to improve similar devices (methods, or products) in the same way” (see MPEP 2143) because the method of including a destination address can be used to improve the system

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of Snell so that the receiving device of Snell can filter out packets which it does not need to demodulate.

**B. Claims 2 and 59 are rejected under pre-AIA 35 U.S.C. 103(a) as being**  
**5 unpatentable over Snell in view of Yamano further in view Kamerman.**

As explained in Section VI.A above, the Examiner believe Snell in view of Yamano teaches claims 2 and 59 including the limitation wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted  
10 to the first modulation method.

To the extent that the Patent Owner disagrees, Kamerman discloses an automatic rate selection scheme for reverting (e.g. falling back) from a "second modulation method" (e.g., QPSK) corresponding to a higher data rate (e.g., 2Mbits/s) to a "first modulation method" (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet  
15 transmissions, for instance where there is a high load in neighbor cells causing cochannel interference (pp. 6, 11 and 12). Kamerman further teaches:

IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol.... An automatic rate selection scheme  
20 based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: after unacknowledged packet transmissions the rate falls back, and after a number (e.g. 10) of successive correctly acknowledged packet transmissions the bit rate goes up.

25 - Kamerman at p. 11.

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5 At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the access point to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.

10 - Kamerman at p. 11.

15 The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and fall back at strong cochannel interference.

- Kamerman at p. 12.

20 Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard available at that time.

25 Therefore it was well-known in the art, as demonstrated in the above cited sections of Kamerman, to transmit a data packet where the data is modulated using a second modulation method, such as QPSK (corresponding to a higher data transfer rate), after unacknowledged packet (third sequence) transmissions or after a number (e.g. 10) of successive correctly acknowledged packet transmissions, to next transmit other data packets where the data is modulated using a first modulation method, such as BPSK (corresponding to a lower data transfer rate) (i.e., to revert to the first modulation method) (Kamerman at 6, 11 and 12).

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A person of ordinary skill in the art would have been motivated and found it obvious to use Kamerman's teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell's system for communicating data packets modulated according to different modulation methods to advantageously maximize the data transfer rate and adapt to changing channel conditions (as also taught by Kamerman at 6 and 11-12). In particular, Kamerman expressly teaches that it is beneficial to transmit the data of a first data packet using a second modulation method corresponding to a higher data transfer rate (e.g., QPSK modulation at 2 mbps) during lower load conditions to maximize the data transfer rate during lower load conditions when the connection is more reliable and to next transmit the data of a second data packet using a first modulation method corresponding to a lower data transfer rate (e.g., BPSK modulation at 1 mbps) (i.e., falling back) during higher load conditions when a more robust signal is needed due to "mutilation of transmissions by interference." (Kamerman at 6 and 11-12).

The combination of Snell and Kamerman is also supported by KSR Rationale (C), "Use of known technique to improve similar devices (methods, or products) in the same way" (see MPEP 2143) because the method of Kamerman of reverting from a "second modulation method" corresponding to a higher data rate to a "first modulation method" can be used to improve the system of Snell to advantageously maximize the data transfer rate and adapt to changing channel conditions.

## VII. RESPONSE TO ARGUMENTS

### 1. SNQs

Patent Owner argues that the Sep 2016 Order did not explain how any of the art included in its alleged SNQs raises an SNQ, other than stating that the same art was not previously before the Office (Jun 2017 Remarks, p. 12).

The Examiner disagrees. The Sep 2016 Order at pp. 7-11 explained clearly in detail how Snell raised an SNQ.

Patent Owner argues:

The Office's analysis falls short of that required to establish an SNQ in that it fails to recognize the fact that Snell is at best cumulative to U.S. Patent No. 4,706,428 ("Boer") – a reference fully considered by the PTAB in multiple IPRs. An argument already decided by the Office cannot raise a new question of patentability. E.g., *Ex parte Lam Research Corp.*, 2012 WL 1178196, at 5 (PTAB 2013); MPEP § 2242 (no substantial new question of patentability if "the same question of patentability has already been decided as to the claim"). --Jun 2017 Remarks, pp. 8-9.

Patent Owner appears to argue that Snell and the references incorporated by reference by Snell are at best cumulative to Boer and because Boer was considered by the PTAB in multiple IPRs, no SNQ could be raised in the Order (Jun 2017 Remarks, pp. 8-21).

The Examiner disagrees. MPEP 2242 states:

If the prior art patents and printed publications raise a substantial question of patentability of at least one claim of the patent, then a substantial new question of patentability as to the claim is present, unless the same question of patentability has already been: (A) decided in a final holding of invalidity by a federal court in a decision on the merits involving the claim, after all appeals; (B) decided in an earlier concluded examination or review of the patent by the Office; or (C) raised to or by the Office in a pending reexamination or supplemental examination of the patent. Issues involving 35 U.S.C. 325(d) must be referred to the Director of the CRU.

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MPEP 2216 states:

5 For requests filed under 35 U.S.C. 302, it is not sufficient that a request for reexamination merely proposes one or more rejections of a patent claim or claims as a basis for reexamination. It must first be demonstrated that a patent or printed  
10 publication that is relied upon in a proposed rejection presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested.  
See also MPEP § 2242.

15 First, Snell presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record *during the prosecution of the application that resulted in the patent for which reexamination is requested* (see Sep 2016 Order, pp. 9-11).

20 Second, in all the previous IPRs, i.e., IPR2014-00518, IPR2014-00519, IPR2014-00514, IPR2014-00515, IPR2015-00114 and IPR2015-00118, PTAB did not institute review of claims 2 and 59 and therefore the teaching presented by Snell and references incorporated by Snell regarding claims 2 and 59 is new and non-cumulative. Although the reference of Boer is similar to Snell, there is no provision in MPEP that requires comparing two prior art references and determines if one is cumulative to another to determine if a SNQ exists for claims that have not been reexamined before.

Accordingly, because Snell was never considered by the Office regarding claims 2 and 59, the question of patentability raised by Snell is new.

25 Patent Owner argues:

Congress intended that the substantial new question standard be judiciously interpreted to prevent cases of abusive tactics and harassment of

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patentees through reexamination. *In re Swanson*, 540 F.3d 1368, 1380-1381 (Fed. Cir. 2008) (citing H. R. Rep. No. 107-120, at 3).

Thus, an argument already decided by the Office cannot raise a new question of patentability. *Ex parte Lam Research Corp.*, 2012 WL 1178196, slip  
5 at 5 (PTAB 2013) (citing *Swanson*, 540 F.3d at 1380; MPEP § 2242 (no substantial new question of patentability if “the same question of patentability has already been decided as to the claim”).

--Jun 2017 Remarks, p. 23.

10 The Examiner would like to point out that there is no question of patentability that has been decided as to claims 2 and 59 of the `580 patent because claims 2 and 59 were not the subject of previous IPRs or any previous reexamination proceedings. Snell is new and therefore “the same question of patentability” has not been raised before and Snell  
15 can be used to raise a SNQ.

Patent Owner further cites *In re Recreative Technologies Corp.*, 83 F.3d 1394 (Fed. Cir. 1996) to conclude the Office lacks jurisdiction to proceed (Jun 2017 Remarks, pp. 25-26).

The Examiner disagrees. The case of *In re Recreative Technologies Corp.*, 83  
20 F.3d 1394 (Fed. Cir. 1996) is different from the instant reexamination proceeding in the following:

On reexamination the examiner rejected claims 1, 2, 4-7, and 17 as unpatentable on the ground of obviousness, 35 U.S.C. § 103, in view of a reference to Ota. The examiner did not reject any claim on any of the eight new  
25 references cited by Preferred, and did not cite any reference other than Ota. The examiner confirmed original claims 13-16 and 18-20 and held patentable original claims 3 and 8-12. The Ota reference had been cited in the original examination on the same ground, obviousness, and the claims had been held patentable over Ota.

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--Background, 83 F.3d 1394, 38 U.S. P.Q.2d 1776.

In other words, the Examiner in the reexamination proceeding leading to *In re Recreative Technologies Corp.*, 83 F.3d 1394 (Fed. Cir. 1996) used the same reference Ota to reject some claims while the same reference had been cited in the original  
5 examination on the same ground, i.e., obviousness, and the claims had been held patentable over Ota. In the instant proceeding, Snell was not on the record in the original examination, in the multiple IPRs and has not been considered as to the patentability of claims 2 and 59. Therefore *In re Recreative Technologies Corp.*, 83 F.3d 1394 (Fed. Cir. 1996) is not applicable to the instant reexamination proceeding.

10 Conclusion: Because Snell has never been considered prior to the instant reexamination proceeding and was not on the record prior to the instant reexamination proceeding and because claims 2 and 59 have not been the subject of IPRs, the SNQs as explained in the Sep 2016 Order at pp. 8-11 are fully supported by MPEP 2216 and 2242.

15 **2. Broadest Reasonable Interpretation**

Patent Owner cites *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (*Fed. Cir. 2015*) and the claim construction in other infringement court cases and IPRs to argue that no patentable weight to most of the claim limitation is an unreasonable claim construction (Jun 2017 Remarks, pp. 28-33).

20 The Examiner disagrees. In *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (*Fed. Cir. 2015*), Proxyconn could not amend claims, similar to other infringement court cases. On the contrary, in *ex parte* reexamination proceedings as in the current



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reexamination proceeding, Patent Owner is given the opportunity to amend claims.

Therefore, the conclusion drawn by IPRs or infringement court cases or the claim interpretation set forth in IPRs or infringement court cases may not be applied in the current ex parte reexamination. Further PTAB in IPR2014-00518 (Final Written

5 Decision, p. 5) reiterates that in IPR,

10 the Board construes claim terms in an unexpired patent using their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); In re Cuozzo Speed Techs., LLC, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015). The claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004). The Office must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification. Id. (citing In re Bass, 314 F.3d 575, 577 (Fed. Cir. 2002)). The “ordinary and customary meaning” is that which the term would have to a person of ordinary skill in the art in question. In re Translogic Tech., Inc., 504 F.3d 1249, 1257 (Fed. Cir. 2007).  
15 -IPR2014-00518, Final Written Decision, p. 5.

20 Therefore in this ex parte reexamination proceeding, just like IPRs of an unexpired patent, broadest reasonable interpretation of claim terms in light of specification is used.

Further, MPEP 2103.I.C states:

25 Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- 30 (A) statements of intended use or field of use,  
(B) “adapted to” or “adapted for” clauses,  
(C) “wherein” clauses, or  
(D) “whereby” clauses.

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MPEP 2111.04 states:

5 Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:

(A) “adapted to” or “adapted for” clauses;

(B) “wherein” clauses; and

10 (C) “whereby” clauses.

Sections IV.B and Section V of Mar 2017 Non-Final Office explained why some of the limitations were not given patentable weight.

Patent Owner cites *Ex parte Hosuito* which states

15 ...the prior art apparatus must be capable of performing the claimed function. As such to be capable of performing the functional limitations in claim 1, the control units or comparable structure must possess the necessary structure, that is, programming, to function as claimed. (emphasis added) (citation omitted).”

20 --Jun 2017 Remarks, p. 31.

25 First, the Examiner agrees with the statement in *Ex Parte Hosuito*. As long as a transceiver having the capability of being programmable then the transceiver is able to meet the claim limitations of claims 2 and 59. The transceiver as disclosed by Snell comprises of a HSP3824 baseband processor (col. 1, lines 55-64) which is programmable. The limitations of original claim 1 of the `580 patent does not use the language of “configured to.” Instead, it uses terms like “capable of” and “for.” Only one limitation in claim 58 uses "configured to," i.e., “*wherein the transceiver is configured to transmit messages with: a first sequence, in the first modulation method,*

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*that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence...,”* which is disclosed by Snell.

Claims 2 and 59, dependent on claim 1 and claim 58 respectively, use the term

“configured to.” However, the functions or limitations in claims 2 and 58-59 that are

5 after "configured to" are disclosed by Snell and they are given patentable weight as explained in the rejection, i.e., Sections V and VI of Mar 2017 Non-Final Office Action.

Therefore the transceiver of Snell is capable of performing the functions as recited in claims 2 and 59 and anticipates claims 2 and 59 of the `580 patent.

Patent Owner argues that Mar 2017 Non-Final Office Action was too narrow on  
10 the interpretation of “different type of modulation methods” (Jun 2017 Remarks, pp. 36-44) and argues that “different type of modulation methods” means “different family of modulation methods” (Jun 2017 Remarks, pp. 36-44).

First, the Examiner would like to point out that PTAB has explained why  
“different type of modulation methods” are interpreted as modulation methods that are  
15 incompatible with one another in great length (see IPR2014-00518, Final Written Decision, pp. 7-12). PTAB also agrees with the Petitioner in IPR2015-00518 to the extent that prosecution history is entitled to little weight under the broadest reasonable interpretation standard (IPR2015-00518, Final Written Decision at pp. 7-8). PTAB also pointed out that Patent Owner’s proffered construction of “types” of modulation methods  
20 being based on “one or more” of the carrier waves’s frequency, phase and amplitude “families” is, itself, ambiguous and PTAB would interpret different "types" of

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modulation as modulation methods that are incompatible with one another (IPR2015-00518, Final Written Decision at pp. 9-12).

Second, the Examiner would like to point out that unlike in infringement court cases, in an *ex parte* reexamination proceeding of an expired patent, the Patent Owner  
5 can choose to amend the claims to clearly define what a term means. The Patent Owner appears to ask the Examiner to interpret the term narrower than the plain meaning of the term. As explained in Section IV of the Mar 2017 Non-Final Office Action, unless the specification clearly defines what "different type of modulation" means, the term "different type of modulation method" is interpreted under broadest reasonable  
10 interpretation and the interpretation set forth in IPR2015-00518 is adopted (see Mar 2017 Non-Final Office Action, p. 7). The Patent Owner can amend the claim if the Patent Owner would like to have a narrower meaning of the term. Further, the instant specification, i.e., the specification of the `580 patent, also fails to clearly define what a "different family of modulation methods" means. In fact, the term "different family of  
15 modulation methods" was not even present in the specification of the `580 patent.

### **3. Harris AN9614 and Harris 4064.4**

Patent Owner argues that there is no sufficient evidence that Harris AN9614 and Harris 4064.4 are public accessible and the documents were not incorporated by  
20 Reference by Snell (Jun 2017 Remarks, pp. 55-62).

The Examiner disagrees.

First, 37 CFR 1.11 states:

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(a) The specification, drawings, and all papers relating to the file of: A published application; a patent; or a statutory invention registration are open to inspection by the public, and copies may be obtained upon the payment of the fee set forth in § 1.19(b)(2).

5

In other words, as long as the documents, i.e., Harris AN9614 and Harris 4064.4, were provided by Snell at the time the application was filed, these documents are publicly accessible and incorporation by reference is reasonable.

Second, Snell is a 102(e) reference. According to 102(e)(2), the invention was described  
10 in a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent.... It does not matter whether the content of that patent (in this case, Snell) was published before the invention or not.

Third, the publications that are incorporated by reference are different from publications used for prior art. As long as at the time of application of Snell, the documents of Harris were  
15 provided by Snell, then the material in Harris documents can be incorporated by reference into the application of Snell.

MPEP 2163.07(b) states:

20 Instead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the specification. The information incorporated is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed. Replacing the identified material incorporated by reference with the actual text is not new matter. See 37 CFR 1.57 and MPEP § 608.01(p)  
25 for Office policy regarding incorporation by reference. See MPEP § 2181 for the impact of incorporation by reference on the determination of whether applicant has complied with the requirements of 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph when 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph is invoked.

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In other words, the purpose of incorporation by reference is to avoid repeating some information in another document. At the time of filing of Snell, the Harris documents were available to the Office. Therefore, instead of repeating the material of the Harris documents, incorporation by references of these two documents in the specification of Snell made the specification more concise and is supported by MPEP and the material incorporated by reference in Snell is part of the text of the application of Snell as filed.

Fourth, 37 CFR 1.57 (e) states:

(e) Other material (“Nonessential material”) may be incorporated by reference to U.S. patents, U.S. patent application publications, foreign patents, foreign published applications, prior and concurrently filed commonly owned U.S. applications, or non-patent publications. An incorporation by reference by hyperlink or other form of browser executable code is not permitted.

Nowhere in the above section requires the non-patent publications be public accessible.

Fifth, to the extent that Patent Owner insists the Harris documents should be public accessible, each of the Harris documents has a publication date and copyright information and it was therefore accessible to the pertinent part of the public and available for duplication. In re Wyer 210 USPQ 790.

Based on the above reasons, incorporation by references of Harris publications, i.e., Harris AN9614 and Harris 4064.4, in Snell conforms to MPEP and the specification of Snell includes the text of Harris AN9614 and Harris 4064.4.

#### **4. Master/Slave Relationship**

Patent Owner alleges that three limitations are missing from all of the relied-on art and master/slave relationship being one of them (Jun 2017 Remarks, pp. 70-73).

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The Examiner disagrees.

Claim 2 recites:

5 1. A communication device capable of communicating according to a *master/slave* relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

10 a transceiver, in the role of the master according to the *master/slave* relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

20 the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

25 the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

30 2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from *the master to the slave* has reverted to the first modulation method.

35 58. A communication device capable of communicating according to a *master/slave* relationship in which a slave message from a slave to a master

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occurs in response to a master message from the master to the slave, the device comprising:

5 a transceiver, in the role of the master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, and wherein the transceiver is configured to transmit messages with:

10 a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

15 the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.

20  
25 59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

MPEP § 2103 I C states “Product claims are claims that are directed to either machines, manufactures, or compositions of matter.”

First, the Examiner disagrees that the master/slave relationship is a limitation.

30 Claim 2 is a single means claim and cannot invoke 112 6<sup>th</sup> paragraph, the whole claim of claim 2 comprises a transceiver which as it is known in the art as comprising a transmitter and a receiver. The only limitation in claim 2 that precedes with "configured to" is “to transmit a third sequence after the second sequence, wherein the third sequence is



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transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” As explained in the rejection under 35 USC 102 in Section V of the Mar 2017 Non-Final Office Action, Snell met this limitation. As to claim 59, in addition to the transceiver is configured to send the third sequence as in claim 2, the transceiver is also configured to transmit a first sequence and a second sequence as claimed, which is also disclosed by Snell. Because claims 2 and 59 do not invoke 112 6<sup>th</sup> paragraph and a master/slave relationship is not a structure, the term “master/slave relationship” is not part of a transceiver or the device of claims 2 and 59. Accordingly, in response to Patent Owner's argument that the references fail to show certain features of Patent Owner's invention, it is noted that the features upon which Patent Owner relies (i.e., master/slave relationship) are not a structure in the rejected product claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, to the extent that the Patent Owner argues that a master/slave relationship should be part of the structure of the transceiver, the transceiver of Snell is also capable of communication in a master role in a master/slave relationship just like the transceiver in claims 2 and 59 of the '580 patent because both transceivers are programmable.

Third, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and is capable of acting as a master in a master/slave relationship. On contrary to Patent Owner's statement, Snell's

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transceiver is not set up only in a peer to peer communication. Harris AN9614 discloses that the PRISM chipset described in Snell can operate in a polled (master/slave) protocol:

[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

-- Harris AN9614 at 3.

This discloses that when the PRISM chipset described in Snell's transceiver is configured to operate in a polled (master/slave) protocol, power consumption can beneficially be reduced by more than an order of magnitude.

A polled protocol is a master/slave protocol, as confirmed by the '580 patent ('580 patent at col. 4, lines 6-9). See also IPR2014-00518, Pap. 47 at 15 ("In [a polling] protocol, a centrally assigned master periodically sends a polling message to the slave nodes, giving them explicit permission to transmit on the network."); IPR2014-00518, Exhibit 1220 (Goodman Declaration) ¶103.

Further, both claims 1 and 58 recite master/slave relationship and it is determined by PTAB that master-slave relationship is unpatentable subject matter.

To distinguish from prior art, the Examiner suggests the Patent Owner to claim a device comprising a processor together with at least one other component shown in Fig. 3 if functional claiming is used.

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### 5. Two different types of modulation method

Patent Owner argues that the proper construction of “different types of modulation methods,” confirmed by the Federal Circuit, is “different families of modulation techniques, such as FSK family of modulation methods and the QAM family of modulation methods” (Jun 2017 Remarks, p. 81).

The Examiner disagrees. Unlike in an infringement case such as in *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, claims can be amended in an examination or reexamination proceeding and therefore must be given broadest reasonable interpretation in light of the specification (see MPEP 2111).

The specification does not use the term "different family of modulation method" or “FSK family of modulation method.” In fact, the specification of the `580 patent does not mention frequency shift key modulation or FSK modulation, let alone FSK family of modulation method. Therefore in light of specification, the Examiner could not interpret “different types of modulation method" as “different family of modulation method.” The instant specification states:

As discussed hereinbefore, however, it is desirable to design a multipoint communication system comprising tribs that use a plurality of modulation methods. For example, one moderately priced trib may be used to communicate at a relatively high data rate for some applications, such as Internet access, while another, lower priced, trib is used to communicate at a lower data rate for other applications, such as power monitoring and control. The needs of these different applications cannot be efficiently met by a single modulation. While it is possible to use high performance tribs running state of the art modulation methods such as QAM, CAP, or DMT to implement both the high and low data rate applications, significant cost savings can be achieved if lower cost tribs using low performance modulation methods are used to implement the lower data rate applications.

--col. 5, lines 7-21, the `580 patent.

As stated in the above section of the `580 patent, one type of modulation method can be used to implement both the high and low data rate application, though using a low performance one can be cost saving. Anyway, the specification of the `580 patent fails to describe that different types of modulation methods are different families of modulation methods and the Examiner will interpret different type of modulation method according to its plain meaning. For example, BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator or vice versa.

Patent Owner argues "even under the Office's overly broad, flawed claim construction in which it defines "Different types of modulation method[s]" to mean "modulation methods that are incompatible with one another," the Office's rejection fails because this requirement is not disclosed nor would it have been suggested by the cited references, as non discloses or would have suggested any incompatibility problem whatsoever." (Jun 2017 Remarks, p. 82).

The Examiner disagrees. Snell teaches using two types of modulation methods, i.e., BPSK and QPSK. It is well known in the art at the time of invention of the `580 patent that BPSK and QPSK are incompatible because signal modulated using one method cannot be demodulated by another method or the number of phases each of the methods uses to modulate data is different than that of the other. In other words, signal modulated by BPSK method cannot be demodulated using QPSK demodulator or vice

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versa and therefore they are incompatible with each other. See also the section above titled “Broadest Reasonable Interpretation.”

Therefore Snell teaches “different type of modulation method.”

Further, in IPR2014-00518, PTAB clearly explained how to interpret “different  
5 type of modulation methods” and determined that Boer teaches different types of modulation methods. Similarly Snell also teaches different types of modulation methods.

### 6. The Third Sequence

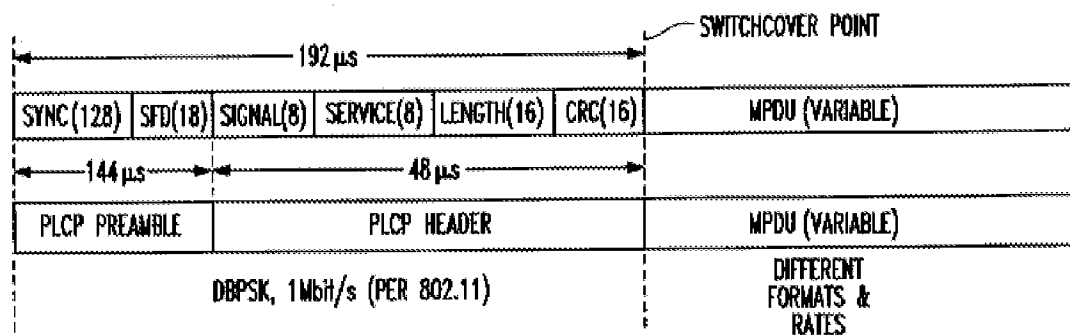
Patent Owner argues that the cited references do not disclose and would not have  
10 suggested the claimed transceiver capable of transmitting the claimed “third sequence [that] is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” (Jun 2017 Remarks, p. 85).

The Examiner disagrees. As explained in the Sep 2016 Order at pp. 8-11 Snell  
15 teaches transmitting the third sequence as recited in claims 2 and 59. This section from Sep 2016 Order is enclosed below:

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at col. 4, lines 42-47 and col. 5, lines 18-21. Snell’s  
20 transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a “first modulation method” (e.g., BPSK) and a “second modulation method” (e.g., QPSK) that is “of a different type than the first modulation method.” (col. 2, lines 27-30, “*It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.*” col. 7, lines 10-14, “*The variable data may be modulated and demodulated in different formats than the header portion to*”  
25

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thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly.” col. 2, lines 15-17, “Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-fly.”).

**FIG. 3**

5

-Snell, Fig. 3.

Snell discloses that each data packet transmission comprises a “group of transmission sequences” structured with a “first portion” (e.g., a PLCP preamble and PLCP header) and a “payload portion” (e.g., MPDU data). Id. at col. 6, lines 35-36, col. 6, lines 64-66, col. 7, lines 5-14, Fig. 3. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. Id. at Fig. 3, col. 6, line 48-col. 7, lines 14. The MPDU data is the data to be transmitted to the receiving transceiver. Id. at col. 7, lines 5-6 (“MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation.”); see also Id. at col. 7, lines 6-14, Fig. 3.

15

Snell teaches that the PLCP preamble and PLCP header are always modulated using the “first modulation method” (e.g., BPSK) (col. 6, lines 35-36, “The header may always be BPSK,” Fig. 3). Snell further discloses that “first information in the first portion” (e.g., the SIGNAL field in the PLCP header) “indicates” which of the “first modulation method” (e.g., BPSK) and “second modulation method” (e.g., QPSK) is used for modulating “second information” in the “payload portion” (e.g., MPDU data).

20

Snell teaches that the SIGNAL field in the PLCP header can have four values (col. 6, lines 54-59), each of which corresponds to a modulation method for the MPDU data (col. 6, lines 52-59, col. 7, lines 1-2, col. 7, lines 5-14, Fig. 3).

25

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SFD is F3A0h for the PLCP preamble 90. Now relating to the PLCP header 91, the SIGNAL is:

0Ah	1 Mbit/s BPSK,
14h	2 Mbit/s QPSK,
37h	5.5 Mbit/s BPSK, and
5Eh	11 Mbit/s QPSK.

-Snell, col. 6, lines 52-59.

5 Snell's transceiver transmits a first group of transmission sequences comprising a "first sequence" (e.g., PLCP preamble and PLCP header) that is "modulated according to the first modulation method" (e.g., BPSK) where the "first sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "14h") the modulation type (e.g., QPSK) used for modulating the "second sequence" (e.g., MPDU data). For the first packet, the "SIGNAL" field in the  
10 PLCP header uses a code (e.g., "14h") that "indicates" when the MPDU data is modulated "according to the second modulation method" (e.g., QPSK). The "second modulation method" (e.g., QPSK) "is of a different type than the first modulation method" (e.g., BPSK).

15 Snell's transceiver then transmits a second packet comprising a "third sequence" (e.g., PLCP preamble and PLCP header) "transmitted in the first modulation method" (e.g., BPSK) where the "third sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "0Ah") the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet.

20 -- Sep 2016 Order at pp. 8-11.

Thus Snell teaches "transmit[ting] a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation  
25 method."

Patent Owner alleges that "disclosure failed to show "how the SIGNAL and SERVICE fields might be deemed, as alleged, to 'indicate' that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2" and claim 59 (Jun 2017 Remarks, p. 87).

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As explained in the Sep 2016 Order at p. 11 that Snell's transceiver that transmits a second packet comprising a "third sequence" (e.g., PLCP preamble and PLCP header) "transmitted in the first modulation method" (e.g., BPSK) where the "third sequence" (e.g., PLCP header with the SIGNAL field) "indicates" (e.g., using "0Ah") the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet has reverted to use the first modulation method, i.e., BPSK. More specifically,

First sequence ----- PLCP header including SIGNAL field of a first packet - SIGNAL field is modulated using BPSK. The value of SIGNAL is "14h."

Second sequence ----- MPDU (variable) shown in Fig. 3, modulated by 2Mbits/S QPSK indicated by "14h" (see col. 6, lines 47-63 of Snell).

Third sequence ----- PLCP header including SIGNAL field of a second packet - SIGNAL field is modulated using BPSK. The value of SIGNAL is "0Ah," indicating the modulation for the MPDU (variable) for the second packet has reverted to BPSK.

As explained in the Sept 2016 Order at pp. 8-11 enclosed above, the transceiver of Snell transmits a first packet comprising a first sequence (PLCP preamble and PLCP header, SIGNAL field in PLCP header indicates "14h") and a second sequence, i.e., MPDU (variable) in the first packet is modulated with a second modulation method indicated by "14h," i.e., QPSK, and then transmits a second packet which comprises PLCP preamble and PLCP header, i.e., the third sequence, and the SIGNAL field of the PLCP header of the third sequence indicates the use of a first modulation method BPSK by having the value of "0Ah" for modulating the MPDU (variable) in the second packing. Because the third sequence indicates using BPSK, which is used to modulate the first



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sequence, to modulate the MPDU (variable), the third sequence indicates the communication from the master to the slave has reverted to the first modulation method.

Patent Owner argues:

5           Snell discloses “switch[ing] on-the-fly between different data rates and/or formats,” Snell at 2:29-30, but not in the manner claimed or for the reason behind the `580 claims. More specifically, the ability of Snell’s transceiver to “switch on-the-fly” is not a teaching of sending multiple packets of the signal format shown in Fig. 3 that switch from using a second modulation method for the  
10           payload portion of the first packet to using a first modulation method for the payload portion of the second packet (labelled as the "next packet"). See Snell at Fig. 3. ... the on-the-fly switching of Snell relates to a modulation switch between the PLCP header and the MPDU variable data portion within a single packet having the signal format shown in Fig. 3. See Snell at Fig. 3...

15           --Jun 2017 Remarks, pp. 89-90.

As explained above, the teaching of Snell reads on the claim limitations of claims 2 and 59. Therefore Snell teaches claims 2 and 59 in the manner claimed. In response to  
20           Patent Owner's argument that the references fail to show certain features of Patent Owner’s invention, it is noted that the features upon which Patent Owner relies (i.e., the reason behind the `580 claims) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed.  
25           Cir. 1993).

The Examiner suggests the Patent Owner to amend the claims to distinguish them from the disclosure of Snell to overcome the rejections set forth in the Mar 2017 Non-Final Office Action.

Regarding Kamerman, Patent Owner argues “there is no teaching or suggestion that it would ‘fall back’ to address an incompatibility issue when a master –which it does not have and would not have suggested – wants to communicate with a slave – which it does not have and would not have suggested.” (Jun 2017 Remarks, p. 91). Patent Owner further argues “maximizing the data transfer rate and adapting to changing conditions in a peer-to-peer communication system – objective of Boer and Kamerman – would not have provided the solution to the incompatibility problem identified and claimed in the ‘580 patent.”(Jun 2017 Remarks, p. 92).

In response to Patent Owner's argument that Kamerman fails to address an incompatibility issue, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Patent Owner further argues "Snell's transceiver would increase the transmission rate during lower load periods and would decrease the transmission rate during higher load periods" (Jun 2017 Remarks, p. 92).

The Examiner disagrees. MPEP 2141.II.C states:

“A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton.” KSR, 550 U.S. at 421, 82 USPQ2d at 1397. “[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” Id. at 420, 82 USPQ2d at 1397. Office personnel may also take into account “the inferences and creative steps that a person of ordinary skill in the art would employ.” Id. at 418, 82 USPQ2d at 1396.

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Patent Owner fails to provide evidence why the combination of Snell and Kamerman would increase data rate during lower load periods, etc.. Further, increasing data or decreasing data rate is not recited in the claims and Patent Owner is arguing limitation not being claimed again.

5

### **7. Combination of Snell with Kamerman and/or Yamano**

Patent Owner asserts "it would not have been obvious to adapt Snell to a master/slave system and solve the problem identified and solved in the `580 patent because of the fundamental differences between peer-to-peer and master/slave communications" (Jun 2017 Remark, p. 94).

10

As explained above, claims 2 and 59 recite only a transceiver. A master/slave communication relationship is not a structure. It is not clear how it can be part of a transceiver. Because claims 2 and 59 are single means claims, they cannot invoke 112 6th paragraph. The only limitations that have patentable weights are the limitations that are after "configured to." Snell teaches the limitations as explained above and in Mar 2017 Non-Final Office Action.

15

Further as explained above, the problem of the `580 patent solve must result in structural difference to be distinguished from prior art such as Snell. In this case, claims 2 and 59 claim a transceiver and Snell teaches a transceiver.

20

To the extent that a master/slave relationship should be given patentable weight, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and is capable of acting as a master in a master/slave relationship (Harris AN9614 at p. 3). On contrary to Patent Owner's statement,

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Snell's transceiver is not set up only in a peer to peer communication. In fact, Snell is silent on what kind of setting the transceiver is in. An ordinary skill in the art would be able to configure it to use in the master/slave setting.

5           To the extent that a reviewing person does not agree that Snell teaches the third sequence, Kamerman is introduced to teach switching between different modulation methods in the limitation of transmitting the third sequence, i.e., the limitation “*the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has*  
10 *reverted to the first modulation method,*” which only requires the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. As explained in Mar 2017 Non-Final Office Action at p. 18, Kamerman discloses an automatic rate selection scheme for reverting (e.g. falling back) from a "second modulation method" (e.g., QPSK) corresponding to a higher data rate (e.g., 2Mbits/s)  
15 to a "first modulation method" (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet transmissions, for instance where there is a high load in neighbor cells causing cochannel interference (pp. 6, 11 and 12). The third sequence is the unacknowledged packet or a number of successive correctly acknowledged packet transmission.

## 20           **8. Polled Scheme of Harris AN9614**

Patent Owner argues that the polled scheme of Harris AN9614 is single rate and is not a communication system using multiple modulation methods (Jun 2017 Remarks, p. 95).

In response to Patent Owner's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Snell teaches using multiple modulation methods so does Kamerman.

Harris AN9614 is used to show that the transceiver of Snell can be used in a master/slave relationship. Further, claims 1 and 58 recite using multiple modulation methods and it is determined by PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation of claims 1 and 58.

10

### **9. Snell, Kamerman and IEEE802.11 standard**

Patent Owner argues "one of ordinary skill would not have been motivated to adapt Snell to a master/slave system and then combine with Kamerman lacking any teaching regarding the proposed IEEE 802.11 standard"(Jun 2017 Remarks, p. 97). Patent Owner further asserts the draft IEEE 802.11 standard was not available to anyone outside the IEEE 802.11 working group (Jun 2017 Remarks, p. 97). Patent Owner further argues "it would not have been obvious to combine Snell with Kamerman after adapting Snell to a master/slave system because there is no evidence that Snell would remain compliant with the draft IEEE 802.11 standard." (Jun 2017 Remarks, p. 99).

In response to Patent Owner's argument that the references fail to show certain features of Patent Owner's invention, it is noted that the features upon which Patent Owner relies (i.e., compliant to IEEE 802.11) are not recited in the rejected product claim(s). Although the claims

20

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are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claims 2 and 59 of the `580 patent do not recite “IEEE 802.11” standard. The rejection of Snell, in view of Yamano and Kamerman do not rely on the standard either.

5

### 10. Snell and Yamano

Patent Owner argues

10 the goal of Snell is to increase the data rate at which information is communicated. However the preamble of Snell is transmitted at the lowest (i.e., 1 Mb/s) data rate. Therefore adding a destination address to the preamble of Snell would increase the amount of information transmitted at the lowest data rate, frustrating Snell’s goal of increasing the data rate. Akl, at ¶174. For at least this reason, it would not have been obvious to one of ordinary skill in the relevant art to combine Yamano’s teaching of a destination address in a preamble with Snell.

15

--Jun 2017 Remarks, pp. 102-103.

Patent Owner’s argument is not persuasive.

20

First, as explained above, claims 2 and 59 merely claim a transceiver. Because claims 2 and 59 are single means claims and cannot invoke 112 6th paragraph and product claims are directed to structure, the transceiver of claims 2 and 59 only configured to transmit some sequences which can include addresses or data or any information.

25

Second, Snell teaches that the transceiver is for use in a WLAN (col. 4, lines 41-47). It is known in the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. Yamano is introduced only if a

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reviewing person does not agree that Snell inherently teaches it. Using some bits for destination address in a packet is necessary to send the packet to a right destination. The necessity outweighs any increase of bit rate needed as it is commonly done in wired and wireless communications. Further, the combination of Snell with Yamano is supported

5 by KSR Rationale (C) as explained in Mar 2017 Non-Final Office Action at p. 14.

10 **VIII. NOTICE RE PATENT OWNER'S CORRESPONDENCE ADDRESS**

37 C.F.R. § 1.33(c) states:

(c) All notices, official letters, and other communications for the patent owner or owners in a reexamination or supplemental examination proceeding will be directed to the correspondence address in the patent file.

15

The correspondence address for any pending reexamination proceeding not having the same correspondence address as that of the patent is, by way of this revision to 37 CFR 1.33(c), automatically changed to that of the patent file as of the effective date.

20

This change is effective for any reexamination proceeding which is pending before the Office as of May 16, 2007, including the present reexamination proceeding, and to any reexamination proceeding which is filed after that date.

Parties are to take this change into account when filing papers, and direct communications accordingly.

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In the event the patent owner's correspondence address listed in the papers (record) for the present proceeding is different from the correspondence address of the patent, it is strongly encouraged that the patent owner affirmatively file a Notification of Change of Correspondence Address in the reexamination proceeding and/or the patent (depending on which address patent owner desires), to conform the address of the proceeding with that of the patent and to clarify the record as to which address should be used for correspondence.

Telephone Numbers for reexamination inquiries:

Reexamination (571) 272-7703

Central Reexam Unit (CRU) (571) 272-7705

10

## IX. CONCLUSION

### **THIS ACTION IS MADE FINAL.**

A shortened statutory period for response to this action is set to expire two months from the mailing date of this action.

**Extensions of time under 37 CFR 1.136(a) do not apply in reexamination proceedings.** The provisions of 37 CFR 1.136 apply only to “an applicant” and not to parties in a reexamination proceeding. Further, in 35 U.S.C. 305 and in 37 CFR 1.550(a), it is required that reexamination proceedings “will be conducted with special dispatch within the Office.”

**Extensions of time in reexamination proceedings are provided for in 37 CFR 1.550(c).** A request for extension of time must specify the requested period of extension and it must be accompanied by the petition fee set forth in 37 CFR 1.17(g). Any request for an extension in a third party requested ex parte reexamination must be filed on or before the day on



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which action by the patent owner is due, and the mere filing of a request will not effect any extension of time. A request for an extension of time in a third party requested ex parte reexamination will be granted only for sufficient cause, and for a reasonable time specified. Any request for extension in a patent owner requested ex parte reexamination (including

5 reexamination ordered under 35 U.S.C. 257) for up to two months from the time period set in the Office action must be filed no later than two months from the expiration of the time period set in the Office action. A request for an extension in a patent owner requested ex parte reexamination for more than two months from the time period set in the Office action must be filed on or before

10 the day on which action by the patent owner is due, and the mere filing of a request for an extension for more than two months will not effect the extension. The time for taking action in a patent owner requested ex parte reexamination will not be extended for more than two months from the time period set in the Office action in the absence of sufficient cause or for more than a reasonable time.

The filing of a timely first response to this final rejection will be construed as including a

15 request to extend the shortened statutory period for an additional two months. In no event, however, will the statutory period for response expire later than SIX MONTHS from the mailing date of the final action. See MPEP § 2265.

In order to ensure full consideration of any amendments, affidavits or declarations, or

20 other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final

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action, will be governed by the requirements of 37 CFR 1.116, after final rejection and 37 CFR 41.33 after appeal, which will be strictly enforced.

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '285 patent throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286. The third party requester is similarly apprised of the ability to disclose such proceedings.

**All** correspondence relating to this ex parte reexam proceeding should be directed as follows:

15

**By U.S. Postal Service Mail to:**

Mail Stop Ex Parte Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

20

**By FAX to:**

(571) 273-9900  
Central Reexamination Unit

25

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By hand to:

Customer Service Window  
Randolph Building  
401 Dulany St.  
Alexandria, VA 22314

5

Registered users of EFS-Web may alternatively submit correspondence via the electronic filing system at <https://efs.uspto.gov/efile/nwportal/efs-registered>

Any inquiry concerning this communication or as to the status of this proceeding, should  
10 be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:

/Yuzhen Ge /  
Primary Examiner

15 Central Reexamination Unit 3992  
(571) 272-7636

Conferees:

20 /Colin LaRose/

/M. F./  
Supervisory Patent Examiner, Art Unit 3992

25

<b>Office Action in Ex Parte Reexamination</b>	<b>Control No.</b> 90/013,808	<b>Patent Under Reexamination</b> 8023580	
	<b>Examiner</b> Yuzhen Ge	<b>Art Unit</b> 3992	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

- a.  Responsive to the communication(s) filed on 6/30/2017.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- b.  This action is made FINAL.
- c.  A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c)**. If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 3. <input type="checkbox"/> Interview Summary, PTO-474. |
| 2. <input type="checkbox"/> Information Disclosure Statement, PTO/SB/08.     | 4. <input type="checkbox"/> _____.                      |

**Part II SUMMARY OF ACTION**

- 1a.  Claims 2 and 59 are subject to reexamination.
- 1b.  Claims \_\_\_\_\_ are not subject to reexamination.
2.  Claims \_\_\_\_\_ have been canceled in the present reexamination proceeding.
3.  Claims \_\_\_\_\_ are patentable and/or confirmed.
4.  Claims 2 and 59 are rejected.
5.  Claims \_\_\_\_\_ are objected to.
6.  The drawings, filed on \_\_\_\_\_ are acceptable.
7.  The proposed drawing correction, filed on \_\_\_\_\_ has been (7a)  approved (7b)  disapproved.
8.  Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some\* c)  None of the certified copies have  
1  been received.  
2  not been received.  
3  been filed in Application No. \_\_\_\_\_ .  
4  been filed in reexamination Control No. \_\_\_\_\_ .  
5  been received by the International Bureau in PCT application No. \_\_\_\_\_ .
- \* See the attached detailed Office action for a list of the certified copies not received.
9.  Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10.  Other: \_\_\_\_\_

cc: Requester (if third party requester)



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Row 1: 90/013,808, 09/12/2016, 8023580, 3277-0114US-RXM1, 2211
Row 2: 6449, 7590, 07/28/2017, [EXAMINER], [PAPER NUMBER]
Row 3: ROTHWELL, FIGG, ERNST & MANBECK, P.C., GE, YUZHEN, [ART UNIT], [PAPER NUMBER]
Row 4: 607 14th Street, N.W., [ART UNIT], [PAPER NUMBER]
Row 5: SUITE 800, [ART UNIT], [PAPER NUMBER]
Row 6: WASHINGTON, DC 20005, [ART UNIT], [PAPER NUMBER]
Row 7: [MAIL DATE], [DELIVERY MODE]
Row 8: 07/28/2017, PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

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BOSTON, MA 02199-3600

Date:

**JUL 27 2017**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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1.  THIS IS A DECISION EXPUNGING THE PAPERS FILED June 23, 2017 by Third Party Requester from the record of the reexamination proceeding(s). Since each expunged paper does not form part of the record, it is being expunged by marking it "closed" and "not public" in the Office's Image File Wrapper (IFW) system.  
 THIS IS A DECISION RETURNING/DESTROYING THE PAPER(S) FILED \_\_\_\_\_ by \_\_\_\_\_.

2. The papers being  expunged  returned  destroyed are:

**Third Party Requester's June 23, 2017 submission entitled "Third Party Requesters' to Respond to Patent Owner's Letter to the Director" and Exhibit A and "Third Party Requester's Response to Patent Owner's Letter to the Director".**

This decision will be made of record in the reexamination file(s).

3. THE ABOVE-IDENTIFIED PAPERS LACK A RIGHT OF ENTRY BECAUSE:
- A.  Patent Owner may not file papers in the record prior to the order granting/denying reexamination (*ex parte*) or first action (*inter partes*). 37 CFR §§1.530(a) and 1.939(b).
  - B.  Third party requester in an *ex parte* reexamination may not file papers in the reexamination file subsequent to the request, except a reply to a proper patent owner statement under 37 CFR 1.530 or a notice of concurrent proceedings as described in MPEP 2282. See 37 CFR §§1.535 and 1.550(g).
  - C.  Third party requester in an *inter partes* reexamination may not file papers in the record, except as specified in the rules, 37 CFR §§1.947, 1.951(b) and 1.983, and 37 CFR §§ 41.61-79, other than a notice of concurrent proceedings as described in MPEP 2686. See 37 CFR 1.939.
  - D.  Parties other than patent owner and a third party requester may not file documents in the record except a notice of concurrent proceedings. See 37 CFR §§1.550(h) and 1.939(a).
  - E.  The notice of concurrent proceedings exceeds the permitted scope. See MPEP 2282, 2686.
  - F.  Other: It is noted that the requester's papers purportedly were filed to respond to a patent owner letter. As no such letter was filed in this proceeding, the issue of whether the requester may file a response in opposition to such a paper is not relevant.

4. CONCLUSION

Telephone inquiries with regard to this decision should be directed to Stephen Stein at 571-272-1544, in the Central Reexamination Unit.

/Stephen J. Stein/  
[Signature]

SPE, Central Reexamination Unit  
(Title)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Control No.	: 90/013,808	Art Unit	: 3992
Patent No.	: 8,023,580	Examiner	: Yuzhen Ge
Filed	: September 12, 2016	Conf. No.	: 2211
Customer No.	: 06449	Atty. No.	: 3277-114.RXM1

Title: SYSTEM AND METHOD OF COMMUNICATION USING  
AT LEAST TWO MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
Central Reexamination Unit  
Commissioner for Patents  
United States Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO FINAL OFFICE ACTION**

This Response is to the Final Office Action mailed July 18, 2017 (“FOA”). This Response is timely-filed, i.e., within the two-month period from the mailing date of the FOA. Thus, this Response will be construed as including a request to extend the shortened statutory period for an additional two months, i.e., to November 18, 2017, as indicated in the FOA, at 44. *See* MPEP § 2265(VII).



### **Introduction**

Patent Owner Rembrandt (“Rembrandt”) maintains the arguments made in its June 30, 2017 Reply to the non-final Office Action (mailed March 31, 2017). Rembrandt also continues to rely on the evidence it submitted in support of those arguments, including that submitted through the Declaration of Dr. Robert Akl (“Akl Declaration I”). Rembrandt has carefully considered the Examiner’s arguments in the FOA but does not believe they are sufficient to fully address Rembrandt’s arguments or outweigh Rembrandt’s evidence in support of those arguments. Thus, Rembrandt respectfully requests that the Examiner reconsider Rembrandt’s arguments in its June 30, 2017 Reply and the supporting evidence provided in the Akl Declaration I and issue a favorable Office Action based on that reconsideration.

In addition to Rembrandt’s arguments and evidence provided in its June 30, 2017 Reply, Rembrandt respectfully requests the Examiner to consider the following additional arguments, which are supported by evidence provided in the accompanying Supplemental 37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (“Akl Declaration II”). Although submitted after a final rejection, the Akl Declaration II is timely presented because it is necessary to rebut to the Examiner’s new arguments made for first time in the FOA. 37 C.F.R. § 1.116(e) (“An affidavit or other evidence submitted after a final rejection ... in an ex parte reexamination filed under § 1.510 ... but before or on the same date of filing an appeal ... may be admitted upon a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented.”). *See also* MPEP § 716.01(A). The Examiner’s new arguments introduced in the FOA include: (i) arguing that “Snell inherently teaches” a destination address, FOA at 41-42, (ii) providing a new construction for “different type[s]” of modulation methods, *id.* at 31, (iii) based

on the new construction, arguing that “BPSK is a different type of modulation method than QPSK,” *id.*, and (iv) arguing that Snell’s disclosure that the transceiver can provide an access point for a wireless access point supports the Office’s position that the transceiver of Snell is capable of acting as a master in a master/slave relationship. *Id.* at 28, 38 (citing Snell at 1:34-46). *See also* Petition Requesting the Director to Exercise His Supervisory Authority Pursuant to 37 C.F.R. § 1.181 and/or § 1.182 (filed concurrently) at 12-16. As the Akl Declaration II is timely presented, it “must be considered by the examiner.” MPEP § 716.01(B) (“Evidence traversing rejections, when timely presented, must be considered by the examiner whenever present.”).

**The Harris Documents Were Not Publicly Accessible at the Time Snell was Filed**

Also, for the first time, the Examiner relies on a regulation that was not in effect at the time of the Snell application:

First, 37 CFR 1.11 states:

(a) The specification, drawings, and all papers relating to the file of: A published application; a patent; or a statutory invention registration are open to inspection by the public, and copies may be obtained upon the payment of the fee set forth in § 1.19(b)(2).

In other words, as long as the documents, i.e., Harris AN9614 and Harris 4064.4, were provided by Snell at the time the application was filed, these documents are publicly accessible and incorporation by reference is reasonable.

FOA, at 23-24. At that time, there was no mechanism for publishing applications and, in any event, Snell was not published prior to its issuance. Thus, the Examiner’s reliance on 37 C.F.R. § 1.11 is misplaced. It is beyond dispute that the Snell file wrapper (which included the Harris documents) was not “open to inspection by the public” until Snell issued on November 9, 1999 – long after the priority date of the ‘580 Patent. It is well established that documents in a file

wrapper only become publicly accessible once the file wrapper is open to inspection by the public. *See, e.g., Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457 (PTAB Mar. 19, 2015) (Paper 9) (“Petitioner does not identify any way that an interested person could or would have located the document submitted in the IDS of an unpublished, ungranted patent application ... We are persuaded that Petitioner has not demonstrated the public accessibility of the HDMI Specification.”). Therefore, the Harris documents are not prior art printed publications to the '580 patent as Snell was not subject to 37 C.F.R. § 1.11 and the Snell file wrapper became open for inspection *after* issuance of the '580 Patent.

**The Combination of Snell and Harris AN9613  
Does Not Suggest a Master/Slave Relationship**

The Examiner posits:

Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and is capable of acting as a master in a master/slave relationship. On contrary to Patent Owner's statement, Snell's transceiver is not set up only in a peer to peer communication. Harris AN9614 discloses that the PRISM chipset described in Snell can operate in a polled (master/slave) protocol:

[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

-- Harris AN9614 at 3.

This discloses that when the PRISM chipset described in Snell's transceiver is configured to operate in a polled (master/slave) protocol, power consumption can beneficially be reduced by more than an order of magnitude.

FOA, at 28-29.

In other words, the Examiner assumes that a polled scheme or protocol can be equated to a master/slave configuration because a master/slave configuration may utilize a polled scheme. In doing so, the Examiner assumes that, because a master/slave configuration may utilize a polled scheme, the polled scheme taught in Harris AN9614 is part of a master/slave configuration. This is, of course, false. Instead, as explained by Dr. Akl:

To the extent that the Office is equating Harris AN9614's "polled scheme" to a master/slave configuration, that position is based on a faulty understanding of the scope of "polling" in the relevant art and on an incorrect reading of Harris AN9614 and the '580 Patent. **While polling can also take place in a master/slave system, see '580 Patent at 4: 6-9 (describing its master/slave protocol as a "polled multipoint communications protocol,") that discussion does not limit polling — which is a more general term in the relevant art -- to master/slave protocols but rather describes one aspect of the claimed protocol. In fact, there is no suggestion in Harris AN9614 that its "polled scheme" is taking place in anything other than the peer-to-peer communications protocol being discussed in Harris AN9614. See Harris AN9614 at 3.**

Akl Declaration I at 119 (emphasis added); *see also id.* at 113-120.

In other words, while master/slave configurations *may* use polling protocols, the presence of a polling protocol neither necessitates nor implies the presence of a master/slave configuration. Furthermore, as Dr. Akl explains, a person of ordinary skill in the art would understand that Snell and the Harris documents are discussing peer-to-peer communications, not master/slave communications:

The primary reference, **Snell, discloses a transceiver 30 (Snell at Fig. 1, 4:42-43) designed for peer-to-peer communications, such as carrier sense multiple access with collision avoidance (CSMA/CA) communications. See Snell at 5:26-29 (disclosing that Snell's transceiver includes a "CCA circuit block 44" that "provides a clear channel assessment (CCA) to avoid data collisions," i.e., collisions which do not occur in a master/slave setting). See also Fig. 1. Systems that implement a CSMA/CA protocol for collision**

**avoidance are distinctly different than a master/slave system.** In a CSMA/CA system, any device on the network can initiate a communication whenever the device determines that no other communications are occurring.

**In stark contrast, the claims of the '580 Patent are limited to master/slave communications,** as noted above, in which slave devices can only communicate on a network when prompted by a master.

Akl Declaration I at 104 (emphasis added); *see also id.* at note 10.

Accordingly, the Examiner's position is contrary to how one of ordinary skill in the relevant art would interpret the teachings of Snell and Harris AN9614. *See* Akl Declaration I, at 104, 113-120; *see also* Akl Declaration II at 10. Further, it is contrary to how one of ordinary skill would understand the use of an access point. An access point, if present, does not poll or control anything but rather merely serves as an interface between the WLAN and the wired network and thus does not act as a master. Snell, 1:36-38.

As explained by Dr. Akl:

An access point acts as a distribution point, much like a router with gateway functionality, which allows a device in one network to talk to other devices in that network and/or another network. However, an access point is not the same as a master that controls communications from one or more slaves, where communication from a slave to a master occurs in response to a master communication from the master to the slave. There is no requirement that an access point be so configured. In fact, in Snell, the access point is configured in a peer-to-peer relationship with the other nodes in the network. Snell, 5:24-30.

Akl Declaration II, at ¶ 10. Notably, the access point described in Snell is described in the "Background of the Invention" section and never mentioned again in relation to Snell's invention.

**The Examiner's "Plain Meaning" of Two Modulation Types Cannot Be Squared With The '580 Prosecution History or the Federal Circuit's Construction**

The Court of Appeals for the Federal Circuit provided a construction for the “at least two types of modulation methods” recited in the claims of the ‘580 Patent as “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” *Rembrandt Wireless Tech.. v. Samsung Electronics*, 853 F. 3d 1370, 1377 (Fed. Cir. 2017). This determination was based upon claim construction rules that apply to both the *Phillips* standard and the broadest reasonable interpretation standard used in reexamination proceedings. Specifically, the CAFC looked to an “unambiguous” statement in the prosecution history of the ‘580 Patent to reach its conclusion. *See, e.g., Microsoft Corp. v. Proxyconn, Inc.*, 789 F. 3d 1292, 1298 (Fed. Cir. 2015) (“The PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.”). Nevertheless, according to the Examiner:

[O]ne type of modulation method can be used to implement both the high and low data rate application, though using a low performance one can be cost saving. Anyway, the specification of the '580 patent fails to describe that different types of modulation methods are different families of modulation methods and the Examiner will interpret different type of modulation method according to its plain meaning. For example, BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator or vice versa.

FOA, at 31.

In other words, the Examiner divorces her interpretation from the prosecution history, explicitly declining to interpret the “at least two types of modulation methods” as “different families of modulation techniques.” Even under the broadest reasonable interpretation, “the claims cannot be divorced from the specification and the prosecution history, as perceived by

persons in the field of the invention.” *Personal Audio, LLC, v. Electronic Frontier Foundation*, No. 16-1123, slip op. at 8 (Fed. Cir. Aug. 7, 2017), *see also In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011).

Again, Rembrandt points to the prosecution history of the ‘580 Patent and to the Federal Circuit’s determination: (“[T]he **clearest** statement in the intrinsic record regarding the meaning of the “different types” limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not diminish this **unambiguous** statement in the prosecution history.” *Rembrandt Wireless Tech. v. Samsung Elec. Co.*, Docket No. 2016-1729 (April 17, 2017) (emphases added). The Examiner has not explained what her “plain meaning” is or why her interpretation is different than that of the Office’s reviewing court. The difference between the BRI and *Phillips* does not justify ignoring *fact findings* made by that court. Instead, construing a claim pursuant to the broadest reasonable interpretation standard includes “consult[ing] the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.” *Proxycorr* at 1298. Accordingly, the Examiner is bound by the “unambiguous statement” from the prosecution history, identified by the Federal Circuit as the “**clearest** statement in the intrinsic record regarding the meaning of the ‘different types’ limitation.” *Rembrandt Wireless Tech.. v. Samsung Electronics*, 853 F. 3d 1370, 1377 (Fed. Cir. 2017).

**The Examiner’s Assertion That A QPSK Demodulator Is  
Unable To Demodulate A BPSK Signal Is Incorrect**

In the FOA, the Examiner states that “BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator.” FOA, at 31. That

assertion is simply incorrect. BPSK is a simplified version of QPSK, where two of the four quadrants in the QPSK constellation are null. As a result, a demodulator that is able to demodulate a QPSK signal can also demodulate a BPSK signal. *See* Akl Declaration II, at ¶¶ 11-

13. As explained by Dr. Akl:

If a QPSK demodulator received a BPSK transmission, the QPSK demodulator would produce all of the information in the in-phase channel of the BPSK transmission. That is, **a QPSK demodulator is a BPSK demodulator** that additionally produces information from the quadrature channel. *See, e.g.,* Snell at 7:60-8:1 (disclosing that, for QPSK, the I channel is formed, and “[t]he Q channel is processed in parallel in the same manner,” but, for BPSK, “only I sym is output.”), 8:29-32 (“For QPSK, errors are generated from both rails, and for BPSK, the error is only generated from the I rail. QPSK En disables the Q rail phase error for BPSK operation.”). Similarly, a QPSK modulator can transmit a BPSK transmission by simply turning off the quadrature channel and using only the in-phase channel. *See, e.g.,* Snell at 5:63-6:3 (“For QPSK, 2 nibbles are presented in parallel ... the first nibble from the B serial-in/parallel-out SIPO circuit block 52b and the second from A SIPO 52a. ... For BPSK, nibbles are presented from the A SIPO 52a only. The B SIPO 52b is disabled.”). Accordingly, even under the Office’s unreasonably broad interpretation, the BPSK and QPSK of Snell are not “different type[s]” of modulations methods as required by claims 2 and 59 of the ‘580 patent because, contrary to the Office’s assertion, a BPSK signal can be demodulated with a QPSK demodulator.

Akl Declaration II at 13 (emphasis added).

Further, the issue relating to modulation methods in the ‘580 Patent was whether the methods were “incompatible” in the claimed invention such that the transceivers could not communicate with each other. *See* Akl Declaration I, at, e.g., ¶¶ 26, 82-84, 93-97, 124-130. In Snell, there is no evidence of any incompatibility issue. *See id.* at ¶¶ 124-130. That is because Snell’s transceiver is designed to communicate using both BPSK and QPSK modulation methods. *See* Akl Declaration II, at ¶¶ 11-13 (“BPSK is a simplified version of QPSK, where two of the four quadrants in the QPSK constellation are null. As a result, a demodulator that is



able to demodulate a QPSK signal can also demodulate a BPSK signal. ... That is, a QPSK demodulator is a BPSK demodulator ...”).

**Kammerman’s “Unacknowledged Packet” Is Not The Claimed Third Sequence**

According to the Examiner:

Kammerman discloses an automatic rate selection scheme for reverting (e.g. falling back) from a “second modulation method” (e.g., QPSK) corresponding to a higher data rate (e.g., 2Mbits/s) to a “first modulation method” (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet transmissions, for instance where there is a high load in neighbor cells causing cochannel interference (pp. 6, 11 and 12). The third sequence is the unacknowledged packet or a number of successive correctly acknowledged packet transmission.

FOA, at 39.

Respectfully, there is no support for equating Kamerman’s unacknowledged packet to the claimed “third sequence” that “is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.”

Kammerman’s disclosure adds nothing to that of Boer,<sup>1</sup> and the Office has already determined that Boer’s teachings are insufficient to invalidate the claims of the '580 patent.<sup>2</sup> Specifically, Samsung made substantially the same argument based, *inter alia*, on Boer that it is now setting forth based on Kamerman:

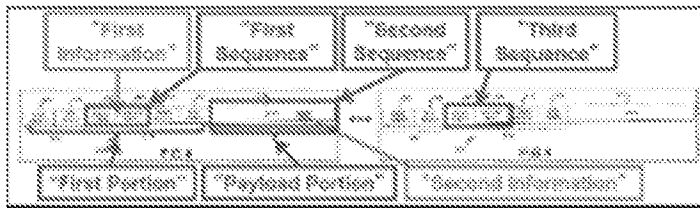
Dependent claim 2 requires that the transceiver “transmit a third sequence after the second sequence.” This limitation is in both the APA and Boer. In the APA, transmission of multiple sequences is shown in Figure 2, with an exemplar “third

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<sup>1</sup> As previously noted, Kamerman is a named inventor on the Boer patent, and the Kamerman paper merely describes a high-level presentation about the work disclosed in the Boer patent. See the discussion in Rembrandt’s Reply, at 26 (citing, *inter alia*, the Akl Declaration I, at ¶¶ 64-68).

<sup>2</sup> IPR2014-00518, Institution Decision, at 13-15.

sequence” being training sequence 48. *See also* Ex. 1201, 4:4-50. Boer teaches this as well. Ex. 1204, 1:33-40 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...”). **A subsequent transmission of SIGNAL 206 and SERVICE 208 fields would be the “third sequence.”** The annotated figure [below] illustrates the arrangement of “information,” “portions,” and “sequences” according to claim 1. Ex. 1220, ¶141-142.



IPR2014-00518 Petition at 24-25 (emphasis added). The PTAB rejected this argument, IPR2014-00518, Institution Decision, paper 16 at 13-15, just as substantially the same argument based on Kamerman should be rejected.

### **Snell is Cumulative of Boer**

Finally, in the FOA, with respect to whether Snell raises an SNQ, the Examiner posits:

Although the reference of Boer is similar to Snell, there is no provision in MPEP that requires comparing two prior art references and determines if one is cumulative to another to determine if a SNQ exists for claims that have not been reexamined before.

FOA, at 17.

Rembrandt respectfully disagrees with the Examiner’s position regarding the Office’s burden to compare the art relied on in a reexamination request with that previously relied on to support an IPR petition. Nonetheless, Rembrandt presents the following comparison of the arguments Samsung made to support its ‘580 reexamination request with those previously made

to support its petitions in the ‘518 IPR and the ‘114 IPR and respectfully requests the Examiner consider these comparisons and terminate the ‘580 reexamination for lack of any SNQ.

**Samsung’s Arguments: Snell Compared to Boer**

Samsung’s arguments in its ‘580 Reexam Request based on Snell are the same or substantially the same arguments previously presented in its ‘518 and ‘114 IPR Petitions based on Boer. Notably, Samsung’s heavy reliance on Snell’s **Figure 3** and on Boer’s **Figure 4** exposes their striking similarity and lack of any significant differences.<sup>3</sup> Snell’s references to these two figures have been bolded to emphasize this point.

In its “Overview of Snell,” Samsung begins:

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at 1:34-46; see *id.* at 1:47-50, 4:42-47, 5:18-21. Snell’s transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a “first modulation method” (*e.g.*, BPSK) and a “second modulation method” (*e.g.*, QPSK) that is “of a different type than the first modulation method.” *Id.* at 2:61-63 ..., 1:55-57 ..., 2:27-30 ..., 7:10-14 ..., 1:58-61 ... , 2: 15-17 .... See *id.* at Abstract, 1:55-61, 2:56-59, Fig. 2, **Fig. 3**, Fig. 5.

‘580 Reexam Request, at 23-24.<sup>4</sup>

In its ‘518 IPR Petition, Samsung previously presented substantially the same arguments with respect to Boer:

Boer discloses the use of transceivers. See *e.g.* Ex. 1204, 2:6-22 (“Referring first to FIG. 1, there is shown a preferred embodiment of a wireless

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<sup>3</sup> In Exhibit 3, Rembrandt has placed side by side Samsung’s claim chart comparison in its ‘580 Reexam Request and that in its ‘114 IPR Petition Request.

<sup>4</sup> The parentheticals and footnotes have been omitted. Emphases (except that of Figs. 3 and 4) are Samsung’s.

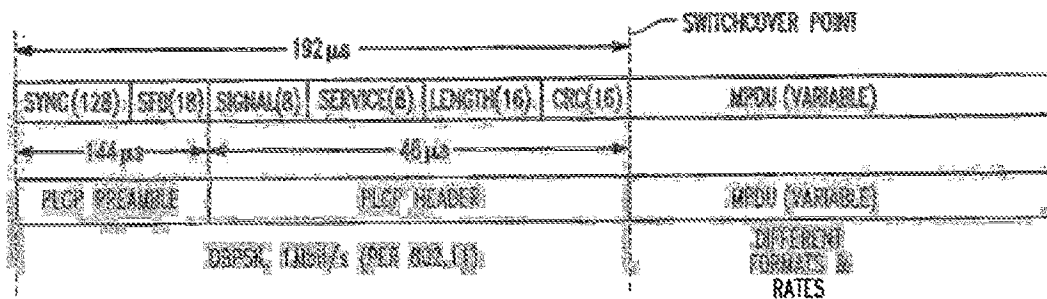
LAN (local area network) 10 in which the present invention is implemented... The access point 12 has antennas 16 and 17 for **transmitting and receiving messages** over a wireless communication channel... The mobile stations 18 are capable of **transmitting and receiving messages** selectively at a data rate of 1 Mbps (Megabit per second) or 2 Mbps, using DSSS (direct sequence spread spectrum) coding.”). A person of skill in the art would have recognized that an access point could act as a master in a basic service set of a wireless LAN. Ex. 1220, ¶95, 114. See also Ex. 1204, 2:34-37 ....

.... Boer plainly discloses transmissions using “at least two types of modulation methods,” since it teaches sending transmissions using DBPSK, DQPSK and PPM/DQPSK. Abstract (“A wireless LAN includes first stations adapted to operate at a 1 or a 2 Mbps data rate and second stations adapted to operate at a 1,2,5 or 8 Mbps data rate. The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation.”). Ex. 1220, ¶116-118.

‘518 IPR Petition, at 19-20.

In its ‘580 Request, Samsung continues:

Snell discloses that each data packet transmission comprises a "group of transmission sequences" structured with a “first portion” (e.g., a PLCP preamble and PLCP header) and a “payload portion” (e.g., MPDU data). *Id* at 6:35-36, 6:64-66, 7:5-14, **Fig. 3**. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. *Id* at **Fig. 3**, 6:48-7:14. The MPDU data is the data to be transmitted to the receiving transceiver. *Id* at 7:5-6 ...; see also *id* at 7:6-14, **Fig. 3**.



(Snell) **FIG. 3**

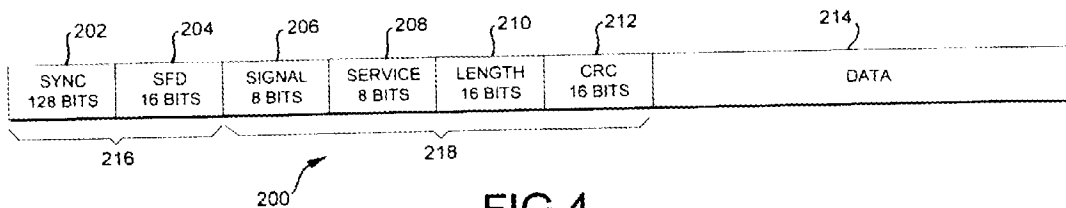
*Id* at **Fig. 3**.

‘580 Reexam Request, at 24-25.

Again, Samsung made substantially the same arguments in its ‘518 Petition:

... Boer discloses a message 200, shown in **Figure 4**, that “include[s] an initial portion and a data portion.” *See e.g.* Ex. 1204, 1:33-37 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion . . .”). The “initial portion” is the claimed “first portion,” while the “data portion” is the claimed “payload portion.” Ex. 1220, ¶127-128.

... Boer discloses a communication device where “first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion.” An embodiment of message 200 is shown in **Figure 4** [below].



**FIG.4**

Messages 200 comprise several fields, including a Header 218 comprised, *inter alia*, of SIGNAL field 206, SERVICE field 208, and LENGTH field 210. *Id.* at 3:42-49. After Header 218, message 200 contains DATA field 214, which also contains the address of the intended recipient. *Id.* at 6:28-31. Ex. 1220, ¶129-130.

‘518 IPR Petition, at 21-22.

Samsung argues in its ‘580 Request:

Snell teaches that the PLCP preamble and PLCP header are always modulated using the “first modulation method” (*e.g.*, BPSK). Snell at 6:35-36 (“The header may always be BPSK”), **Fig. 3**. Snell further discloses that “first information in the first portion” (*e.g.*, the SIGNAL field in the PLCP header) “indicates” which of the “first modulation method” (*e.g.*, BPSK) and “second modulation method” (*e.g.*, QPSK) is used for modulating “second information” in the “payload portion” (*e.g.*, MPDU data).

‘580 Request, at 25.

Again, substantially the same argument was made with respect to Boer in Samsung’s

‘518 IPR Petition:

Boer also discloses claim 1's requirement that the "first information" (i.e., the identification of the modulation method) comprise a "first sequence" that is modulated using the "first modulation method." Boer teaches that Header 218, which includes the SIGNAL 206 and SERVICE 208 fields, is modulated using DBPSK, which is the "first modulation method." Ex. 1204, 3:56-58 ("With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and **header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation.**") (emphasis added [by Samsung]). SIGNAL 206 and SERVICE 208 fields comprise the "first sequence." Given that data within the SIGNAL 206 and SERVICE 208 fields indicate what type of modulation the DATA field 214 will be transmitted with, they meet claim 1's requirement that the "the first sequence indicate[] an impending change from the first modulation method to the second modulation method." Ex. 1220, ¶136-137.

'518 IPR Petition, at 23-24.

In its '580 Request, Samsung continued:

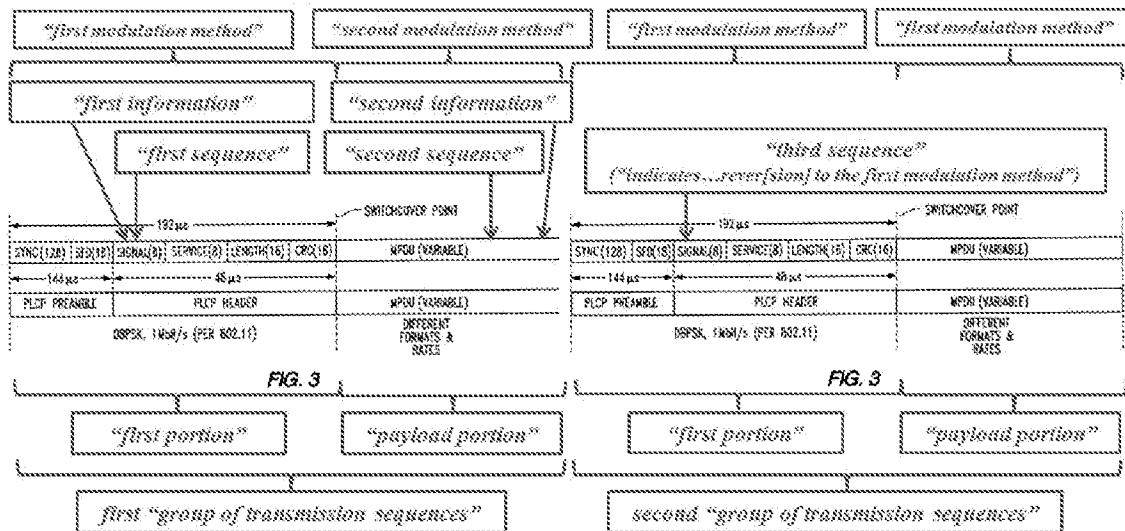
...Snell discloses "[n]ow relating to the *PLCP header 91*, the *SIGNAL* is:

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0Ah	1Mbits/s BPSK
14h	2Mbits/s QPSK
37h	5.5 Mbits/s BPSK, and
6Eh	11Mbits/s QPSK.

---

Snell at 6:52-59. Thus, Snell teaches that the SIGNAL field in the PLCP header includes the symbol "0Ah" to indicate when the MPDU data is modulated using the "first modulation method" (e.g., BPSK at 1 Mbit/s). *Id* at 6:52-59, 7:1-2, 7:5-14, **Fig. 3**. Snell also teaches that the SIGNAL field in the PLCP header includes the symbol "14h" to indicate when the MPDU data is modulated using the "second modulation method" (e.g., QPSK at 2 Mbit/s). *Id*. Snell thus teaches that "[t]he variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in **FIG. 3**, occurs on-the-fly." *Id* at 7: 10-14; *see also*, e.g., *id* at **Fig. 3**, 2:27-30.



Id at Fig. 3 (annotated).

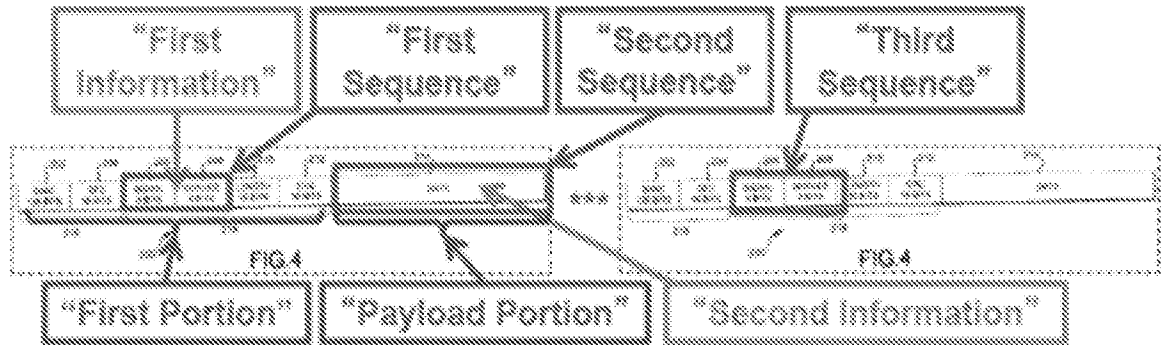
‘580 Reexam Request, at 25-26.

Similarly, Samsung previously argued in its ‘518 IPR Petition:

... Boer teaches that the “second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method,” since the data (the “second information”) within DATA field 214 (the “second sequence”) will be modulated using the second type of modulation method (DQPSK or PPM/DQPSK) when the SIGNAL 206 and SERVICE 208 fields so indicate. Ex. 1204, 1:33-47, 3:56-62, 4:4-11 & 6:5-21. Finally, as plainly seen in **Figure 4** in Boer, DATA field 214 (i.e., the recited “second sequence”) is transmitted after SIGNAL field 206 and SERVICE field 208 (the recited “first sequence”). See also *id.*, 3:56-62 (“With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The **subsequent DATA field 214**, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.”) (Emphasis added [by Samsung]). Ex. 1220, ¶138-140. Thus, claim 1 is rendered obvious by the combination of the APA and Boer.

Dependent claim 2 requires that the transceiver “transmit a third sequence after the second sequence.” This limitation is in both the APA and Boer. In the APA, transmission of multiple sequences is shown in Figure 2, with an exemplar “third sequence” being training sequence 48. See also Ex. 1201, 4:4-50. Boer teaches this as well. Ex. 1204, 1:33-40 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network

station adapted to transmit and receive messages at a plurality of data rates, wherein said **messages** include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...”). A subsequent transmission of SIGNAL 206 and SERVICE 208 fields would be the “third sequence.” The annotated figure [Fig. 4 below]



illustrates the arrangement of “information,” “portions,” and “sequences” according to claim 1. Ex. 1220, ¶¶141-142.

Claim 2 further requires that the third sequence be “transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” As discussed, Header 218, which includes SIGNAL 206 and SERVICE 208 fields, always transmitted using DBPSK (the “first modulation method”). Ex. 1204, 3:56-58. Ex. 1220, ¶143. Thus, claim 2 is obvious in view of the prior art.

‘518 IPR Petition, at 24-25.

Samsung continued along the same line of arguments in its ‘580 Reexam Request:

Snell teaches communicating multiple data packets with the ability to “switch on-the-fly between different data rates and/or formats.” *Id* at 2:29-30. Based on this disclosure, a person of ordinary skill in the art would have understood that Snell teaches that a series of packets may be sent that switch from using a second modulation method to using a first modulation method for the payload portion of the data packet, as shown in the annotated **Figure 3** above. [See *supra*, at \_\_\_\_.] For example, Snell’s transceiver transmits a first group of transmission sequences comprising a “first sequence” (*e.g.*, PLCP preamble and PLCP header) that is “modulated according to the first modulation method” (*e.g.*, BPSK) where the “first sequence” (*e.g.*, “SIGNAL” field in PLCP header) “indicates” (*e.g.*, using “14h”) the modulation type (*e.g.*, QPSK) used for modulating the “second sequence” (*e.g.*, MPDU data). For the first packet, the



“SIGNAL” field in the PLCP header uses a code (*e.g.*, “14h”) that “indicates” when the MPDU data is modulated “according to the second modulation method” (*e.g.*, QPSK). The “second modulation method” (*e.g.*, QPSK) “is of a different type than the first modulation method” (*e.g.*, BPSK).

Snell's transceiver then transmits a second packet comprising a “third sequence” (*e.g.*, PLCP preamble and PLCP header) “transmitted in the first modulation method” (*e.g.*, BPSK) where the “third sequence” (*e.g.*, “SIGNAL” field in PLCP header) “indicates” (*e.g.*, using “OAh”) the modulation type (*e.g.*, BPSK) used for modulating the MPDU data of the second packet. Dependent claims 2 and 59 require “transmit[ting] a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” ... For the second packet, the “SIGNAL” field in the PLCP header uses a code (*e.g.*, “OAh”) that “indicates” when the MPDU data is modulated using the BPSK modulation method at 1 Mbit/s. This “SIGNAL” thus “indicates that communication” from the transceiver “has reverted to the first modulation method” (*e.g.*, reverted to BPSK modulation). In addition, transmitting the data using the “first modulation method” (*e.g.*, BPSK) results in a data rate of 1 Mbit/s which is lower than transmitting the data using the “second modulation method,” which results in a data rate of 2 Mbit/s.

‘580 Reexam Request, at 26-27.

While these latter Samsung arguments are substantially repetitive of those quoted above and thus also addressed by the arguments made in the ‘518 IPR Petition quoted above, Samsung also made substantially the same arguments in its ‘114 IPR Petition:

...Petitioner respectfully submits that a person having ordinary skill in the art would have understood that Boer teaches that the SIGNAL 206 and SERVICE 208 fields in Boer can indicate that communication has reverted to the first modulation method. Ex. 1221, ¶13. First, Boer indisputably teaches transmission of multiple messages 200. Ex. 1204, 1:33-40 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to **transmit** and receive **messages** at a plurality of data rates, wherein said **messages** include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...”). Indeed, a person having ordinary skill in the art would have known that a communication system utilizing data packets such as message 200 transmits multiple sequential packets. Ex. 1221, ¶14-15. Thus, a person having ordinary skill in the art would understand that the SIGNAL 206 and SERVICE 208 fields of a second message

200 is the (i) “third sequence” of claims 2 & 59, and (ii) “second sequence” of claim 49. Ex. 1221, ¶15.

Boer also teaches each claim’s requirement that the recited “third sequence” and “second sequence” indicate that communication “has reverted to the first modulation method.” First, Petitioner respectfully submits that a person having ordinary skill in the art would have known that in Boer, a first message 200 where the DATA field 214 is transmitted using PPM/DQPSK (“second modulation method”) could be followed by a second message 200. Ex. 1221, ¶17. This second message 200, by virtue of being transmitted after a first message 200, meets the requirement that the “third sequence” and “second sequence” be transmitted “after” the previous sequences recited by each claim. Ex. 1221, ¶18.

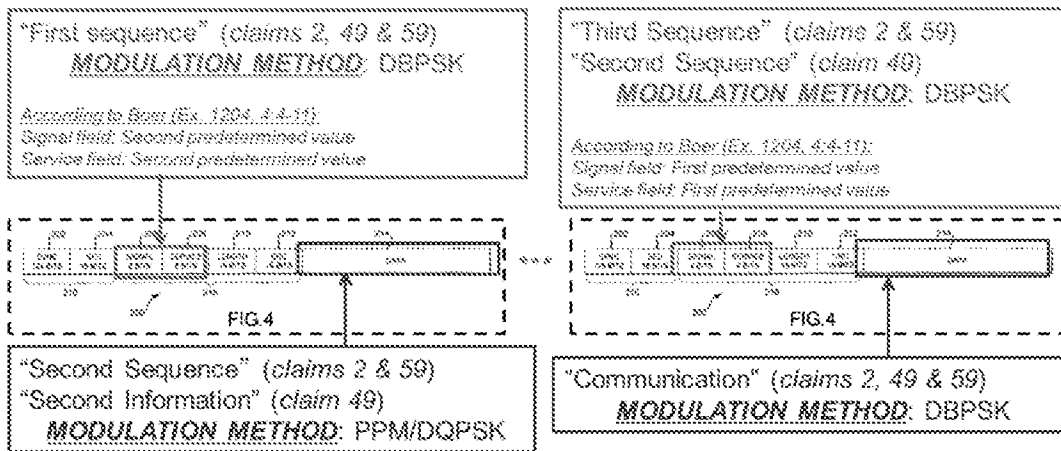
Second, this ordinarily skilled person would have known that the DATA 214 field in second message 200 could be transmitted using DBPSK (“first modulation method”). Ex. 1221, ¶19. Indeed, Boer explicitly teaches that DATA field 214 can be modulated using any of the modulation methods described therein. *See e.g.*, Ex. 1204, 3:56-62 (“With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. **The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.**”). Ex. 1221, ¶19.

Boer teaches that values contained in the SIGNAL field 206 and SERVICE field 208 indicate which modulation method will be used to transmit DATA field 214. Ex. 1204, 4:4-11 (“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.”). Ex. 1221, ¶20.

Thus, when transmitting the **first** message 200 in the sequence, DATA field 214 will be modulated in PPM/DQPSK (“second modulation method”) as indicated by SIGNAL field 206 containing a second predetermined value while SERVICE field 208 contains a second (or third) predetermined value. *See* Ex. 1204, 4:4-11. Ex. 1221, ¶21. When transmitting the **second** message, the DATA field 214 reverts to DBPSK (“first modulation method”) as indicated by SIGNAL field 206 containing a first predetermined value while the SERVICE field 208 contains a first predetermined value, which Boer states is “typically all zero bits.” *See* Ex. 1204, 4:4-11. Ex. 1221, ¶22. By placing the first predetermined value in SIGNAL field 206 and the first predetermined value in SERVICE field 208, these two fields indicate that transmission of the DATA field 214 “has reverted to the

first modulation method,” as required by claims 2, 49, 52-53 and 59. *See* Ex. 1221, ¶23.

The following figure [FIG. 4] shows the location in two messages 200 in Boer of terms in claims 2, 49, and 59. It also shows how Boer uses the claimed modulation methods:



Ex. 1221, ¶24.

Because Boer teaches that DATA field 214 can be transmitted with either DBPSK, DQPSK, or PPM/DQPSK, a person having ordinary skill in the art would have known, and found it obvious, that a transmitted message 200 in which DATA field 214 was transmitted using PPM/DQPSK could be followed by a message 200 where the DATA field 214 is transmitted using DBPSK. Ex. 1221, ¶25. Indeed, Boer specifies that such a reversion would occur if ACK messages are not received correctly. Ex. 1204, Fig 7 (block 522) and 7:41-51 (“Returning to block 508, if an ACK message is not received correctly and within the predetermined time interval, then the flowchart proceeds to block 522 where the SC count value is reset to zero and the data rate is decremented (if the minimum data rate is not already being used)....”). See the annotated Fig. 7 (Ex. 1204):

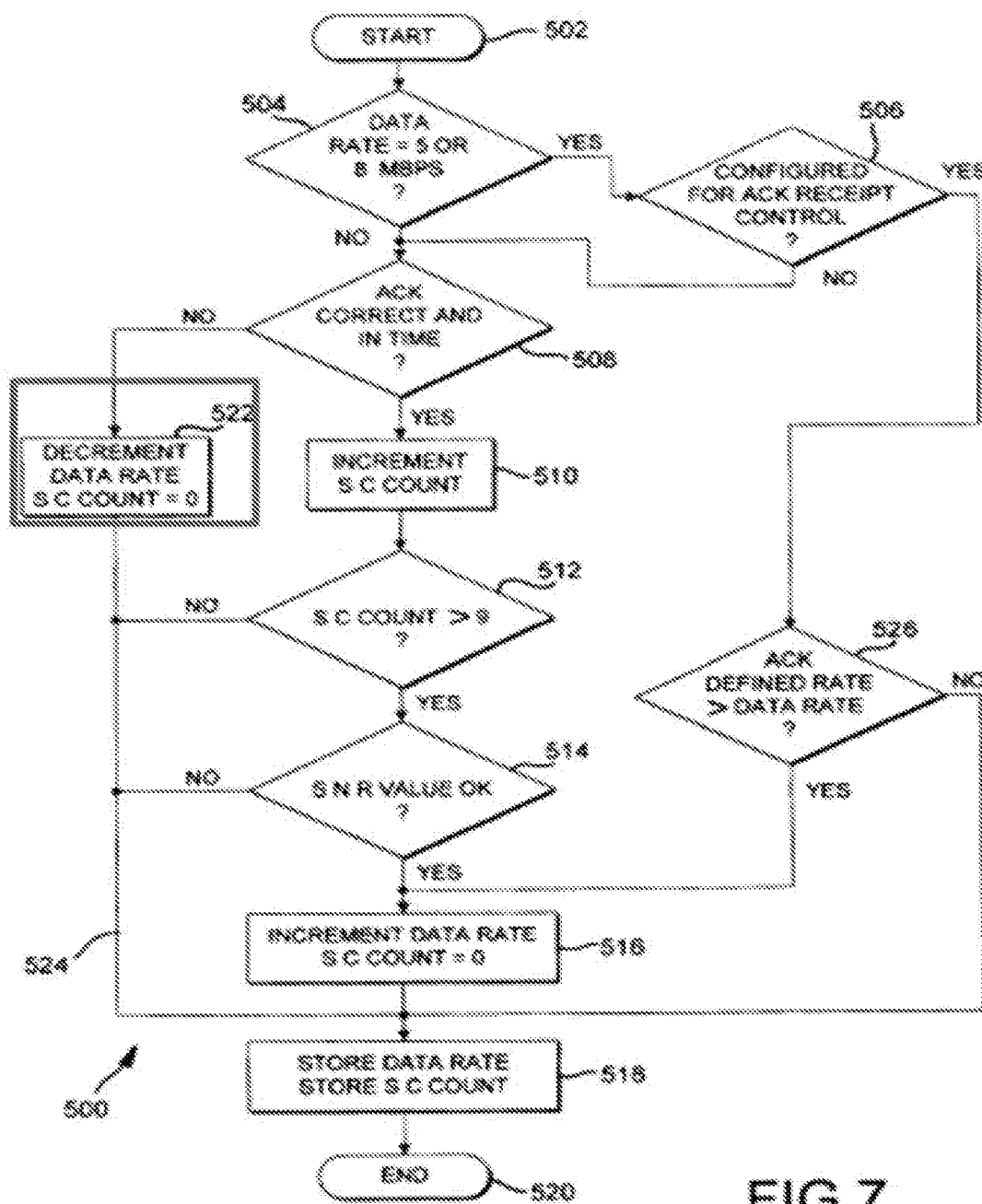


FIG. 7

See also *Id.* at 8:6-9 and Ex. 1221, ¶25. A person of ordinary skill in the art would have understood that ACK messages may not be received correctly when channel conditions change for the worse, such as when the transceivers are moved apart from one another or when interference increases. Ex. 1221, ¶26. Boer discloses that under such conditions, “the data rate is decremented.” Based on the flow chart in Fig. 7 of Boer, reprinted above, it is seen that if enough ACK messages

are not received correctly, the data rate may be decremented until the data rate reaches 1 Mbps, which is transmitted using DBPSK. Ex. 1221, ¶26. Whenever this happens, the SIGNAL and SERVICE fields indicate that communication “has reverted to the first modulation method,” thereby meeting the “reverted” limitation required by claims 2, 49, 52-53 and 59. Ex. 1221, ¶27.

Moreover, a person having ordinary skill in the art would have known, and found it obvious, that following routine events such as an increase in interference in the communications channel, the SIGNAL field 206 and SERVICE field 208 would have contained values indicating that communication “has reverted to the first modulation method,” as required by claims 2, 49, 52-53 and 59. Ex. 1221, ¶28.

‘114 IPR Petition, at 15-21.

#### **Samsung’s Arguments: Harris 4064.4 Compared to Boer**

In its “Overview of Harris 4064.4,” Samsung argued that Harris 4064.4 discloses DBPSK and DQPSK. ‘580 Reexam Request, at 29-31. So does Boer, as Samsung repeatedly argued in its ‘518 IPR Petition, for example, at 19-20 (“Boer plainly discloses transmissions using ‘at least two types of modulation methods,’ since it teaches sending transmissions using DBPSK, DQPSK and PPM/DQPSK.”).

More specifically, in its ‘580 Reexam Request, Samsung relied on Harris 4064.4 for its disclosure of a preamble and header that are always transmitted as *DBPSK* waveforms, a data portion transmitted as either DBPSK or DQPSK, and a SIGNAL field that indicates whether the data portion is modulated as DBPSK or DQPSK. ‘580 Request at 48-49, 52, 56-57, 63-64, 74-75, 77-79, 82-83, 89-90, 106, 109-110 (citing Harris 4064.4 at Fig. 10, 14-16).

Samsung’s arguments based on Harris 4064.4 add nothing of relevance when compared to those previously made based on Boer, which discloses a preamble 216 and header 218 that always are sent using DBPSK and a data field 214 transmitted in DBPSK, DQPSK, or PPM/QPSK, and SIGNAL and SERVICE fields that indicate whether the data field 214 is

modulated in DBPSK, DQPSK, or PPM/QPSK. *See, e.g.*, IPR2014-00518 Petition at 20, 22-24 (citing Boer at Fig. 4, Abstract, 3:42-49, 3:56-62, 4:4-11, 6:5-21). The DBPSK and DQPSK of Boer were relied upon as allegedly corresponding to the claimed “first modulation method” and “second modulation method,” respectively, and the SIGNAL and SERVICE fields of Boer were relied on as allegedly corresponding to the claimed “first sequence.” *See, e.g.*, IPR2014-00518 Petition at 20, 22-24; IPR2014-00892 Petition at 20, 22-24.

Samsung’s other arguments based on Harris 4064.4 are substantially the same arguments made with respect to Snell. *See* ‘580 Reexam Request, at 29-31. And, in turn, those arguments made with respect to Snell were made in Samsung’s ‘518 and ‘114 IPR Petitions (quoted above).

**Samsung’s Arguments: Harris AN9614 Compared to the APA and Boer**

In its “Overview of Harris AN9614,” Samsung argued in its ‘580 Reexam Request that Harris AN9614 discloses that Snell can be configured to operate in a polled (master/slave) protocol such that “power consumption can be beneficially ... reduced by more than an order of magnitude.” ‘580 Reexam Request, at 32. To the extent Rembrandt agrees that the “polling scheme” in Harris AN9614 can be equated to a master/slave protocol (which it vigorously contests), this reference adds nothing to the that Samsung previously argued “plainly disclosed” a “master/slave relationship.” ‘518 IPR Petition, at 19. With respect to Samsung’s “power consumption” argument, Samsung previously argued along the same lines that “simplicity and determinacy are motivations to combine Boer with the master/slave communication system” of the APA. ‘518 IPR Petition, at 14.

In fact, the CRU has determined *in this proceeding* that the teachings of Boer in combination with those of the APA are the same as the teachings of Snell in combination with

Harris AN9614. While addressing features recited in claims 1 and 58, the CRU argues that her arguments presented based on Snell and Harris AN9614 must be valid and maintained because the teachings of these references are the same as those of Boer in view of APA, grounds relied upon by the Board in rejecting claims 1 and 58 in the '518 IPR:

Harris AN9614 is used to show that the transceiver of Snell can be used in a master/slave relationship. Further, claims 1 and 58 recite using multiple modulations and it is determined by PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation of claims 1 and 58.

FOA at 40. It is not just Rembrandt who believes that this art and the arguments based upon it are the same, the CRU believes it and relies on this equivalency in an attempt to strengthen its position.

#### **Samsung's Arguments: Yamano Compared to Boer**

In its "Overview of Yamano" in its '580 Reexam Request, Samsung argued that Yamano discloses the claimed destination address:

Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address for an intended destination of the payload portion. Yamano at 19:63-64 ("Packet 700 includes a preamble 701 and a main body 702."); Yamano at 20:1-7 ("For example, preamble 701 can include information which identifies: . . . (2) packet source and destination addresses.").

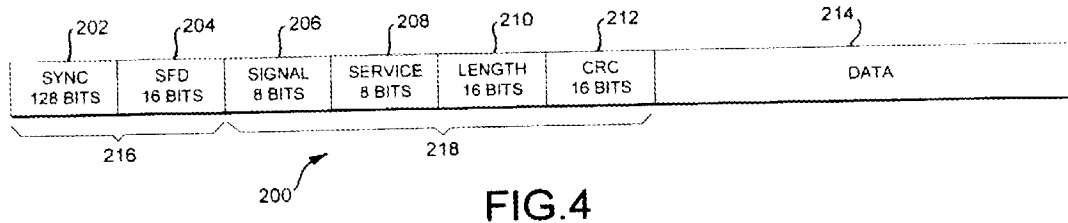
'580 Reexam Request, at 36.<sup>5</sup>

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<sup>5</sup> While Samsung also argues that Yamano discloses the destination address in the preamble, '580 Reexam Request, at 36-37, that fact is not relevant to the patentability of claims 2 and 59 which are not limited to having the destination address in the preamble. See claim 1 ("wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion") and claim 58 ("wherein the at least one message is addressed for an intended destination of the second sequence").

In its '518 IPR Petition, Samsung argued that Boer disclosed the claimed destination address:

An embodiment of message 200 is shown in Figure 4 [below].



Messages 200 comprise several fields, including a Header 218 comprised, *inter alia*, of SIGNAL field 206, SERVICE field 208, and LENGTH field 210. *Id.* at 3:42-49. After Header 218, message 200 contains DATA field 214, which also contains the address of the intended recipient. *Id.* at 6:28-31. Ex. 1220, ¶129-130.

'518 IPR Petition, at 22. Thus, Samsung previously presented substantially the same arguments based on Boer as it now bases on Yamano.

### **Samsung's Arguments: Kamerman Compared to Boer**

In its '580 Reexam Request, Samsung fails to even acknowledge that *Kamerman* was *Boer's co-inventor*.<sup>6</sup> Significantly, the rate control algorithm in *Kamerman's* presentation (the only aspect of that reference relied on in the '580 Reexam Request) was described in detail in the Boer patent which was previously presented and fully considered in numerous IPRs. *See* the summary of IPRs in Exhibit 1. Samsung alleged that "Kamerman has not been previously cited to or considered by the Office." '580 Reexam Request at 37. This statement is misleading because it does not disclose Kamerman's close relationship to the Boer patent and the substantial

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<sup>6</sup> The Kamerman paper is dated August, 1996, a few months after he, Boer and others filed the Boer patent. It appears Kamerman was permitted to talk about the invention disclosed in the Boer patent once the application was filed. Such a procedure is typical with companies, particularly large companies like Lucent Technologies (assignee of the Boer patent and Kamerman's employer).



identity of the two disclosures. In fact, Kamerman's automatic rate control algorithm is nothing more than a less detailed version of the automatic rate control algorithm repeatedly relied on by Samsung in Boer patent.

In its "Overview of Kamerman" in its '580 Reexam Request, Samsung argued:

Kamerman, like Snell, relates to DSSS transceivers designed according to the then-draft IEEE 802.11 standard, and discloses an automatic rate selection scheme for transmitting a first data packet where the data is modulated using a second modulation method (*e.g.*, QPSK at 2 mbps) and next transmitting a second data packet where the data is modulated using a first modulation method (*e.g.*, BPSK at 1 mbps) to adjust the data transfer rate based on channel conditions. *Id* at 11 ("IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. ... An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: *after unacknowledged packet transmissions the rate falls back*, and after a number (*e.g.* 10) of successive correctly acknowledged packet transmissions the bit rate goes up."). Kamerman discloses that the data transfer rates can fall forward (*i.e.*, increase) with reliable connections and fall back (*i.e.*, revert) when there is strong cochannel interference. *Id* at 12 ("The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and/all *back at strong cochannel interference.*").

Kamerman discloses adjusting the data transfer rates by switching between modulation types, including between a second modulation method, such as QPSK (which corresponds to a higher data transfer rate) and a first modulation method of a different type, such as BPSK (which corresponds to a lower data transfer rate). *Id* at 11. Kamerman teaches that the automatic rate selection scheme can maximize the data transfer rate by transmitting the data using the second modulation method (which corresponds to the higher data transfer rate) when there is a reliable connection and reverting to transmitting the data using the first modulation method (which corresponds to a lower data transfer rate) during higher load conditions when a more robust signal is needed due to "mutilation of transmissions by interference."

At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load

for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.

*Id* at 11.

Accordingly, Kamerman discloses an automatic rate selection scheme for transmitting a first data packet where the data is modulated using a second modulation method (*e.g.*, QPSK at 2 mbps) when there is a reliable connection to maximize the data transfer rate, and, after unacknowledged packet transmissions (for instance, when there is a high load in neighbor cells causing cochannel interference which requires a more robust signal) next transmitting a second data packet where the data is modulated using a first modulation method (*e.g.*, BPSK at 1 mbps) (*i.e.*, “falling back” or “reverting”). This automatic rate selection scheme is advantageous because it maximizes the data transfer rate when possible while preserving reliability during periods of strong cochannel interference.

‘580 Reexam Request, at 38-39.

In the ‘518 and ‘114 IPR Petitions, Samsung previously made substantially the same arguments based on Boer. *See, e.g.*, the ‘114 IPR Petition, at 15-21 (quoted above).

**The Substantial Identity of Samsung’s Arguments in its ‘580 Reexam Request to Those It Previously Presented to the PTAB Establish The Lack of Any SNQ and Thus Require Termination of the Reexamination**

The combinations of art presented by Samsung to support its ‘580 Reexam Request are at best cumulative of Samsung’s previously presented combinations of art to support its ‘518 and ‘114 IPR Petitions. Except for the claimed master/slave relationship, Samsung previously alleged that Boer disclosed all the limitations of claims 2 and 59 (including a destination address). Samsung relied on the APA to show the master/slave relationship. And Samsung previously relied on Upender to argue that there was motivation to combine the APA and Boer. In sum, in its ‘580 Reexam Request, to support its proposed SNQs 1 and 2, Samsung merely has

presented Snell, Yamano, and Kamerman (or Snell, Yamano, Kamerman, and Harris 4064.4) to substitute for the Boer teachings and has presented Harris AN9614 to replace the APA. Perhaps recognizing that its combination of *five* references may still not provide any teaching or suggestion of a master/slave relationship (which they do not), to support its proposed SNQ 3, Samsung substitutes Harris AN9614 with the APA and Upende, i.e., references previously presented to the Office. By using substitute references for those previously presented, Samsung is able to argue the art has not been previously cited or considered. But Samsung's position misses the mark with respect to the application of § 325(d) – the relevant question is whether the art *or* arguments are substantially the same as those previously presented. In fact, Samsung's "new" art, considered alone or in combination, adds nothing to the art it previously presented to the Office in two or more IPR petitions and thus is substantially the same. Samsung's harassment of Rembrandt through the use of substitute art is exactly the type of harassment that the requirements for a substantial new question of patentability were designed to curb.

**Snell Does Not Inherently Teach A Destination Address**

In the FOA, for the first time, the Examiner takes the position that "Snell inherently teaches" a destination address:

It is known in the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. Yamano is introduced only if a reviewing person does not agree that Snell inherently teaches it. Using some bits for destination address in a packet is necessary to send the packet to a right destination. The necessity outweighs any increase of bit rate needed as it is commonly done in wired and wireless communications.

FOA, at 41-42.<sup>7</sup>

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<sup>7</sup> The Examiner did not previously rely on Snell as disclosing inherently the destination address feature. *See* Non-Final Office Action at 9-11, 14, 16-17. In particular, in the anticipation

Rembrandt respectfully disagrees with the Examiner's position. *Inherency* is limited to cases where the proposed inherent element is "necessarily ... present" in the prior art. *See PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1194–95 (Fed. Cir. 2014). In this case, there is no evidence that a transceiver such as Snell's must necessarily use "some bits for destination address," and, in fact, that is not the case. *See* Akl Declaration II, at ¶¶ 7-9. Moreover, the Examiner appears to admit that not all transceivers have such bits in her statement "it is *commonly* done in wired and wireless communications."

The claimed destination address is recited as follows in claims 1: "wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion." And claim 58 recites the destination address limitation as follows: "wherein the at least one message is addressed for an intended destination of the second sequence." The specification makes clear that the "intended destination" is a particular trib in the network. *See*, e.g., '580 Patent at 4:14-16 ("The master transceiver 24 transmits a training sequence 34 that includes the address of the trib that the master seeks to communicate with. In this case, the training sequence 34 includes the address of trib 26a"); 6:10-12 ("master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b.").

In particular, according to Dr. Akl:

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rejections set forth in the Non-Final Office Action, the Examiner did not give patentable weight to the destination address feature. *Id.* at 9-11. In the obviousness rejections, the Examiner did not rely on Snell as disclosing the destination address feature and instead relied on Yamano. *Id.* at 14 ("Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion. Yamano discloses ..."), 16-17 ("Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence. Yamano discloses ...").

The claimed destination address is not necessarily present in Snell because ... Snell's system could have been implemented as a broadcast system. In a broadcast system, each message from the access point is directed to all of the tribes in the WLAN and is not addressed to a particular tribe. Such a broadcast system would have been clearly feasible with Snell, since all of the tribes in Snell were able to communicate using the same modulation method. By contrast, no such broadcast would have been possible to the Type A and Type B tribes disclosed in the '580 Patent, as they failed to use any common modulation method.

Akl Declaration II at ¶ 9.

### **Conclusion**

In view of the above, Rembrandt respectfully requests the Examiner to reconsider her determination in the FOA, terminate the reexamination, and indicate that claims 2 and 59 are patentable over the prior art of record.

Date: September 18, 2017

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**CERTIFICATE OF SERVICE**

It is hereby certified that on this 18<sup>th</sup> day of September, 2017, the foregoing **REPLY TO FINAL OFFICE ACTION** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Control No.	: 90/013,808	Art Unit	: 3992
Patent No.	: 8,023,580	Examiner	: Yuzhen Ge
Filed	: September 12, 2016	Conf. No.	: 2211
Customer No.	: 06449	Atty. No.	: 3277-114.RXM1

Title: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS

**SUPPLEMENTAL 37 C.F.R. § 1.132 DECLARATION OF DR. ROBERT AKL**

**I. INTRODUCTION**

**A. Engagement**

1. My name is Robert Akl, and I have been retained by counsel for Rembrandt Wireless Technologies, LP (“Rembrandt”) as an expert declarant in this reexamination. I have been asked by counsel to opine on a number of subjects relevant to this reexamination, including the patentability of claims 2 and 59 of US Patent No. 8,023,580 (“the ‘580 Patent”) from the perspective of one of ordinary skill in the relevant art prior to December 5, 1997 (when Provisional Patent Application No. 60/067,562 was filed, and to which the ‘580 Patent claims priority).

2. Specifically, I have been asked by counsel to review the Request for Ex Parte Reexamination of the ‘580 Patent, the Office’s Order Granting Request for Ex Parte Reexamination of the ‘580 Patent dated September 27, 2016 (“Order”), the Office’s Non-Final Office Action dated March 31, 2017, the Office’s Final Office Action dated July 18, 2017, and the references relied on in the Order, Non-Final Office Action, and/or Final Office Action, including U.S. Patent No. 5,982,807 (“Snell”), U.S. Patent No. 6,075,814 (“Yamano”), “Using the PRISM™ Chip Set for Low Data Rate Applications,” Harris Semiconductor Application Note No. AN9614 (“Harris AN9614”), “HSP3824 Direct Sequence Spread Spectrum Baseband Processor,” Harris Semiconductor File No. 4064.4 (“Harris 4064.4”), Kamerman, A.,

“Throughput Density Constraints for Wireless LANs Based on DSSS,” IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol. 3 (“Kammerman”), the Petition for Inter Partes Review in IPR2014-00518, the PTAB’s Institution Decision in IPR2014-00518, Paper 16 (dated September 23, 2014), the PTAB’s Final Written Decision in IPR2014-00518, U.S. Patent No. 5,706,428 (“Boer”), the alleged Admitted Prior Art (“APA”), Upender et al., “Communication Protocols for Embedded Systems,” Embedded Systems Programming, Vol. 7, Issue 11, Nov. 1994 (“Upender”), and U.S. Patent No. 5,537,398 to Siwiak (“Siwiak”) and to offer rebuttal opinions when, based on my expertise in the relevant art, I disagree with the determinations of the Office.

3. I am being compensated at my normal hourly consulting rate (\$650 per hour) for time spent on this matter. I have no financial interest in the outcome of this reexamination, and my compensation is in no way affected by its outcome.

#### **B. Qualifications**

4. I have summarized my educational background, work experience, and other relevant qualifications in ¶¶ 4-13 of my 37 C.F.R. § 1.132 Declaration filed on June 30, 2017 (“First Akl Declaration”), and a true and accurate copy of my curriculum vitae is attached as Exhibit A to the First Akl Declaration.

#### **II. MATERIALS REVIEWED AND RELIED ON IN FORMING MY OPINIONS**

5. In preparing the opinions and discussion included in this declaration, I have reviewed and considered the documents identified in ¶ 2 above. I have also relied on my years of education, teaching, research, and experience, and my understanding of the applicable legal principles.

#### **III. LEGAL PRINCIPLES**

6. I am not an attorney. I have been advised of general principles of patent law to be considered in formulating my opinions as to the patentability of claims 2 and 59 of the ‘580



Patent. The general principles are set forth in ¶¶ 16-40 of the First Akl Declaration. I have applied these principles to the facts set forth in this report in rendering my opinions.

#### **IV. OPINIONS**

7. In the Final Office Action, the Office states that “Snell inherently teaches” the claimed destination address. Final Office Action, at 41-42 (“It is known the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. Yamano is introduced only if a reviewing person does not agree that Snell inherently teaches it.”). I understand that inherency is limited to cases where the proposed inherent element is necessarily present in the prior art.

8. Claim 1 recites the claimed destination address as follows: “wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion.” Claim 58 recites the claimed destination address as follows: “wherein the at least one message is addressed for an intended destination of the second sequence.” The specification makes clear that the “intended destination” is a particular trib in the network. *See, e.g.*, ‘580 patent at 4:14-16 (“The master transceiver 24 transmits a training sequence 34 that includes the address of the trib that the master seeks to communicate with. In this case, the training sequence 34 includes the address of trib 26a”); 6:10-12 (“master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b.”).

9. The claimed destination address is not necessarily present in Snell because Snell does not mention a destination address, and Snell’s system could have been implemented as a broadcast system. In a broadcast system, each message from the access point is directed to all of the tribs in the WLAN and is not addressed to a particular trib. Such a broadcast system would have been clearly feasible with Snell, since all of the tribs in Snell were able to communicate using the same modulation method. By contrast, no such broadcast would have been possible to the Type

A and Type B tribs disclosed in the '580 patent, as they failed to use any common modulation method.

10. In the Final Office Action, the Office appears to equate an access point with the master/slave functionality set forth in the claims. *See* Final Office Action, at 28 (“Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and is capable of acting as a master in a master/slave relationship.”), 38 (“[t]o the extent that a master/slave relationship should be given patentable weight, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) ...”). An access point acts as a distribution point, much like a router with gateway functionality, which allows a device in one network to talk to other devices in that network and/or another network. However, an access point is not the same as a master that controls communications from one or more slaves, where communication from a slave to a master occurs in response to a master communication from the master to the slave. There is no requirement that an access point be so configured. In fact, in Snell, the access point is configured in a peer-to-peer relationship with the other nodes in the network. Snell, 5:24-30.

11. In the Final Office Action, the Office states that “BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator.” Final Office Action, at 31. I disagree with the assertion that a BPSK signal cannot be demodulated with a QPSK demodulator. BPSK is a simplified version of QPSK, where two of the four quadrants in the QPSK constellation are null. As a result, a demodulator that is able to demodulate a QPSK signal can also demodulate a BPSK signal.

12. In particular, BPSK stands for bi-phase (or binary) phase shift keying, and QPSK stands for quadrature phase shift keying. *See, e.g.*, Snell at Abstract, 2:36, 2:56-59. BPSK and QPSK have a common phase shift keying modulation method. BPSK uses an in-phase (real or I) channel in which an in-phase sinusoidal carrier is modulated to have one of two possible values (i.e., 0 or 1) per cycle of the carrier. As BPSK uses only the in-phase channel having one of two possible values per cycle, BPSK produces 1 bit of information per cycle. QPSK uses the in-phase channel and additionally uses a quadrature (imaginary or Q) channel in which a quadrature sinusoidal carrier is modulated to have one of two values per cycle of the carrier. As QPSK uses both the in-phase and quadrature channels, each having one of two possible values per cycle for a total of four possible values (i.e., 00, 01, 10, or 11) per cycle, QPSK produces 2 bits of information per cycle.

13. If a QPSK demodulator received a BPSK transmission, the QPSK demodulator would produce all of the information in the in-phase channel of the BPSK transmission. That is, a QPSK demodulator is a BPSK demodulator that additionally produces information from the quadrature channel. *See, e.g.*, Snell at 7:60-8:1 (disclosing that, for QPSK, the I channel is formed, and “[t]he Q channel is processed in parallel in the same manner,” but, for BPSK, “only I sym is output.”), 8:29-32 (“For QPSK, errors are generated from both rails, and for BPSK, the error is only generated from the I rail. QPSK En disables the Q rail phase error for BPSK operation.”). Similarly, a QPSK modulator can transmit a BPSK transmission by simply turning off the quadrature channel and using only the in-phase channel. *See, e.g.*, Snell at 5:63-6:3 (“For QPSK, 2 nibbles are presented in parallel ... the first nibble from the B serial-in/parallel-out SIPO circuit block 52b and the second from A SIPO 52a. ... For BPSK, nibbles are presented from the A SIPO 52a only. The B SIPO 52b is disabled.”). Accordingly, even under the Office’s

unreasonably broad interpretation, the BPSK and QPSK of Snell are not “different type[s]” of modulations methods as required by claims 2 and 59 of the ‘580 patent because, contrary to the Office’s assertion, a BPSK signal can be demodulated with a QPSK demodulator.

14. Further, the issue relating to modulation methods in the ‘580 Patent was whether the methods were “incompatible” in the claimed invention such that the transceivers could not communicate with each other. In Snell, there is no evidence of any incompatibility issue. In my opinion, that is because Snell’s transceiver is designed to communicate using both BPSK and QPSK modulation methods. *See* First Akl Declaration 94-97, 124-130.

15. In particular, Snell does not disclose and would not have suggested incompatible types of modulation methods because Snell does not even mention, let alone address, incompatibility. *See* Snell *passim*. For instance, the transceiver 30 of Snell is capable of communicating using any of “1 Mbit/s BPSK,” “2 Mbit/s QPSK,” “5.5 Mbit/s BPSK,” and “11 Mbit/s BPSK.” Snell at 5:30-36, 6:51-59. Snell does not disclose or suggest that Snell’s transceiver 30 and another transceiver are incompatible in any way when operating at one or more of 1 Mbit/s BPSK, 2 Mbit/s QPSK, 5.5 Mbit/s BPSK, and 11 Mbit/s BPSK. *Id. passim*. Instead, Snell’s transceivers are all capable of communicating with each other using any of 1 Mbit/s BPSK, 2 Mbit/s QPSK, 5.5 Mbit/s BPSK, and 11 Mbit/s BPSK based on whether the bits of the SIGNAL field are “0Ah,” “14h,” “37h,” or “6Eh.” *See* Snell at 6:51-59. Therefore, incompatibility is not an issue in Snell, and there is no disclosure in Snell of the claimed “different type[s]” of modulation methods (even under the Office’s unreasonably broad interpretation).

16. In addition to the opinions above, I incorporate by reference the First Akl Declaration.

## **V. CONCLUSION**

17. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these

statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the '580 Patent.

Date: 9/14/2017

  
\_\_\_\_\_  
Dr. Robert Akli

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :

Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING THE DIRECTOR TO EXERCISE HIS SUPERVISORY  
AUTHORITY PURSUANT TO 37 C.F.R. § 1.181 AND/OR § 1.182**

Pursuant to 37 C.F.R. § 1.181 and/or § 1.182, Rembrandt Wireless Technologies, LP (“Rembrandt”) respectfully requests the Director to exercise his supervisory authority under Rule 181 to withdraw the finality of the Final Office Action dated July 18, 2017 (“Request”). The bases for Rembrandt’s Request are twofold: The Final Office Action (i) fails to address a number of arguments Rembrandt set forth in the Rembrandt’s Reply to Office Action (filed June 30, 2017) (“Reply”) and the evidence submitted supporting those arguments through the 37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (“Akl Dec.”); and (ii) raises several arguments for the first time to which Rembrandt has not had an opportunity to respond. Rembrandt’s Request is based on the limits and requirements of *ex parte* reexamination and examination generally, which have not been observed in the Final Office Action. The Office recognizes the importance of

addressing all arguments and evidence, clearly defining the Office's position, and giving the Patent Owner two opportunities to respond to that position:

Before a final action is in order, a clear issue should be developed between the examiner and the patent owner. To bring the prosecution to a speedy conclusion and at the same time deal justly with the patent owner and the public, the examiner will twice provide the patent owner with such information and references as may be useful in defining the position of the Office as to unpatentability before the action is made final.

MPEP § 2271.

Based on this and other provisions governing the issuance of a Final Office Action, a Final Office Action must (i) include a rebuttal of any arguments raised in a patent owner's response; (ii) consider any evidence traversing the rejections and, if the evidence is insufficient to overcome the rejections, specifically explain why; and (iii) limit the arguments to those previously made to "twice provide the patent owner with such information ... as may be useful in defining the position of the Office". MPEP § 2271. *See also* MPEP §§ 706.07, 707.07(f), 716.01. As explained below, none of these limitations and requirements is met by the Final Office Action.

#### **Statement of Facts and Issues Relevant to Petition**

- 1) On September 27, 2017, the Office issued an Order granting reexamination of claims 2 and 59 of the '580 patent.
- 2) On March 31, 2017, the Office issued a Non-Final Office Action.
- 3) On June 30, 2017, Rembrandt filed a Reply to the Non-Final Office Action. The Reply included arguments for patentability supported by evidence submitted through Dr. Robert Akl (37 C.F.R. § 1.132 Declaration of Dr. Robert Akl ("Akl Dec.")).
- 4) On July 18, 2017, the Office issued a Final Office Action.

- 5) The Final Office Action does not address Patent Owner’s evidence on many issues, including those identified below. That evidence was submitted through Dr. Akl in his declaration. Instead, the Final Office Action merely acknowledges the declaration’s existence. Final Office Action at 3.
- 6) The Final Office Action does not address any of Patent Owner’s arguments and does not address the evidence supporting those arguments that (i) a construction that equates “different modulation methods” with “different types of modulation methods” is unreasonably broad because it reads “types” out of the claims, (ii) differences between the BRI and *Philips* standards are irrelevant to whether the prosecution history of the ‘580 patent unambiguously defines “different type[s],” and (iii) the Office’s construction of “different type[s]” cannot be justified by the PTAB’s Final Written Decision in the ‘518 IPR. Reply at § III.C.3-5 (pages 42-44) (supported by the Akl Dec., at ¶¶ 20, 26, 121-130); Final Office Action at 22-23.
- 7) In the Final Office Action, the Office continues to assert that “claims 2 and 29 are single means claims.” Final Office Action at 38. *See also id.* at 27 (“[c]laim 2 is a single means claim”). With respect to that assertion, the Final Office Action fails to address Patent Owner’s argument that the reexamination cannot proceed because no prior art rejection can be issued, as doing so would necessarily be based on a speculative assumption as to the meaning of the claims. *See* Reply at 28, n. 13; Final Office Action *passim*.
- 8) The Final Office Action fails to address Patent Owner’s argument or the evidence supporting that argument that “whether two modulation methods are incompatible, as used in the ‘580 Patent, cannot be considered in a vacuum but must be considered in the context in which term or phrase is used.” Reply at 83 (citing Akl Dec., at ¶ 125). *See also* Reply at 43, n. 16;



Final Office Action at 31-32 (defining, for the first time and without any citation to support the new argument, the meaning of incompatibility with respect modulation methods).

- 9) The Final Office Action does not address Patent Owner's argument (or the case law supporting that argument) that "the dates and copyright notices on the Harris Documents merely establish the dates they were created or printed, and do not establish that they were disseminated or otherwise made available to the relevant public by those dates," Reply at 57-58 (citing *Hilgraeve, Inc. v. Symantic Corp.*, 271 F. Supp. 2d 964, 975 (E.D. Mich. 2003); *Ex parte Rembrandt Gaming Technologies, LP*, Appeal 2014-007853, Reexamination Control No. 90/012,379 at 5 (PTAB December 3, 2014); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper No. 13 at 17 (PTAB Aug. 26, 2015)). See Final Office Action at 25.
- 10) The Final Office Action does not address Patent Owner's argument (or the cases supporting that argument) that Snell did not incorporate the "polled scheme" disclosure of Harris AN9614 because Snell did not identify it with detailed particularity as the specific material of Harris AN9614 that Snell incorporates. Reply at § V.D (pages 64-68); Final Office Action at 23-25.
- 11) The Final Office Action does not address Patent Owner's argument or the evidence supporting that argument that the claimed "master/slave relationship" is not inherent in, or even suggested by, Harris AN9614's "polled scheme." Reply at § VI.A.3 (pages 78-81) (supported by Akl Dec. at ¶¶ 112-120); Final Office Action at 25-29.
- 12) The Final Office Action does not address Patent Owner's argument or evidence supporting that argument that Snell is not silent about the transceiver setting and instead discloses a transceiver that "includes a 'CCA circuit block 44' that 'provides a clear channel assessment (CCA) to avoid data collisions,' i.e., collisions which do not occur in a master/slave setting."

Reply at 73 (citing Snell at 5:26-29 & Fig. 1 and supported by Akl Dec. at ¶ 104); Final Office Action at 39.

- 13) With respect to Rembrandt's other arguments that the Final Office Action purports to address, the Final Office Action does not address the evidence submitted through Dr. Akl (including the evidence supporting Rembrandt's arguments why one of ordinary skill in the art would not have been motivated to modify the cited art or combine it in the way the Examiner has done). *See e.g.*, Reply at 94-103 (supported by Akl Dec. at ¶¶ 152-178); Final Office Action at 38-42.
- 14) In the Final Office Action, for the first time, the Office introduces a new argument that "Snell inherently teaches" a destination address. Final Office Action at 41-42 ("It is known the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. Yamano is introduced only if a reviewing person does not agree that Snell inherently teaches it.").
- 15) In the Final Office Action, for the first time, the Office introduces a new argument that first and second modulation methods are "different type[s]" if "they use different algorithms when performing modulation and the data modulated with the [first modulation method] cannot be demodulated with a [second modulation method] demodulator or vice versa." Final Office Action at 31. In addition, based on the Office's new definition of "different type[s]," the Office for the first time argues that "BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator or vice versa." *Id.*
- 16) In the Final Office Action, for the first time, the Office introduces a new argument that Snell's disclosure that the transceiver can provide an access point for a wireless access point

supports the Office's position that the transceiver of Snell is capable of acting as a master in a master/slave relationship. Final Office Action at 38 (citing Snell at 1:34-46) (“[t]o the extent that a master/slave relationship should be given patentable weight, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network ...”), 28 (citing Snell at 1:34-46) (“Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network”).

17) In the Final Office Action, for the first time, the Office relies on a Declaration of David Goodman (“Goodman Declaration”) to support its assertion that “a polled protocol is a master/slave protocol.” Final Office Action at 29 (citing IPR2014-00518, Exhibit 1220 at ¶ 103).

**The Final Office Action Should be Vacated or At Least Made Non-Final Because the Examiner Failed to Respond to Numerous Arguments Traversing the Rejections**

The Examiner maintained the rejections but failed to address the substance of numerous arguments for patentability (and failed to address the evidence submitting supporting those arguments) despite the requirement to do so. *See* MPEP § 2271 (“the final rejection ... should include a rebuttal of any arguments raised in the patent owner’s response”); MPEP § 707.07(f) (“Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s argument and answer the substance of it.”). *See also* MPEP § 2271 (“The grounds of rejection must (in the final rejection) be clearly developed to such an extent that the patent owner may readily judge the advisability of an appeal.”).

In Rembrandt’s Reply, Rembrandt argued that (i) a construction that equates “different modulation methods” with “different types of modulation methods” is unreasonably broad because it reads “types” out of the claims, Reply at § III.C.3 (pages 42-43) (supported by Akl Dec., at ¶¶ 20, 26, 121-130), (ii) differences between the BRI and *Philips* standards are irrelevant

to whether the prosecution history of the '580 patent unambiguously defines "different type[s]," *id.* at § III.C.4 (page 43), and (iii) the Office's construction of "different type[s]" cannot be justified by the PTAB's Final Written Decision in the '518 IPR. *Id.* at § III.C.5 (page 44). The Examiner did not address any of these arguments *and did not address the declaratory evidence supporting them* despite continuing to rely on (i) an "incompatible" construction that equates "different types" of modulation methods with modulation methods that are simply "different," (ii) the BRI standard to ignore the unambiguous definition of "different type[s]" in the prosecution history, and (iii) the PTAB's Final Written Decision in the '518 IPR to justify her construction of "different type[s]." *See* Final Office Action at 22-23.

In the Reply, Rembrandt argued that:

The Examiner asserts that the claims being reexamined "are single means claims" (3-31-17 Office Action, at 6), which would render them *indefinite* because a "single means" claim covers *every conceivable means* for achieving the desired result. *Ex parte David Chater-Lea*, 2010 WL 665664 (BPAI 2010). If the Office's view is that claims are indefinite, no prior art rejection can be issued (and hence reexamination on the basis of patents and printed publications cannot proceed), as doing so would necessarily be based on a speculative assumption as to the meaning of the claims. *See Google, Inc. v. Function Media, L.L.C.*, 2012 WL 1891077 (BPAI 2012); *Ex parte Webexchange Inc.*, 2014 WL 2946395 (PTAB 2014); and *Superior Communications, Inc., v. Voltstar Technologies, Inc.*, 2014 WL 5474770 (PTAB 2014). Rembrandt disputes that claims 2 and 59 of the '580 Patent are "single means" claims, or indefinite, as such a construction is clearly unreasonable. However, under the decisions set forth above, if the Examiner maintains her view that the claims are single means claims (tantamount to an improper indefiniteness rejection), she cannot issue a prior art rejection and these reexamination proceedings must be terminated.

Reply at 28, n. 13. The Examiner did not address Rembrandt's arguments but instead merely maintained her view that "claims 2 and 29 are single means claims." Final Office Action at 38. *See also id.* at 27 ("[c]laim 2 is a single means claim").

In the Reply, Rembrandt argued that "whether two modulation methods are incompatible, as used in the '580 Patent, cannot be considered in a vacuum but must be considered in the

context in which term or phrase is used.” Reply at 83 (supported by Akl Dec., at ¶ 125). *See also* Reply at 43, n. 16 (supported by Akl Dec., at ¶ 26). The Examiner addressed neither this argument nor the declaratory evidence supporting it despite considering in a vacuum whether two modulation methods are incompatible. Final Office Action at 31-32.

In the Reply, Rembrandt argued that “the dates and copyright notices on the Harris Documents merely establish the dates they were created or printed, and do not establish that they were disseminated or otherwise made available to the relevant public by those dates.” Reply at 57-58 (citing *Hilgraeve, Inc. v. Symantic Corp.*, 271 F. Supp. 2d 964, 975 (E.D. Mich. 2003); *Ex parte Rembrandt Gaming Technologies, LP*, Appeal 2014-007853, Reexamination Control No. 90/012,379 at 5 (PTAB December 3, 2014); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper No. 13 at 17 (PTAB Aug. 26, 2015)). The Examiner asserted that “each of the Harris documents has a publication date and copyright information and it was therefore accessible to the pertinent part of the public and available for duplication.” Final Office Action at 25. However, the Examiner addressed neither Patent Owner’s arguments regarding the difference between copyright and publication dates nor the case law supporting Patent Owner’s arguments. *See id.*

In the Reply, Rembrandt argued that Snell did not incorporate the “polled scheme” disclosure of Harris AN9614 because Snell did not identify it with detailed particularity as the specific material of Harris AN9614 that Snell incorporates. Reply at § V.D (pages 64-68). The Examiner failed to respond to this argument. *See* Final Office Action at 23-25. For instance, the Examiner did not dispute that the law is that, “[t]o incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” Reply at 66 (quoting

*Advanced Display Systems, Inc. v. Kent State University*, 212 F.3d 1272 (Fed.Cir. 2000)). The Examiner also did not dispute Patent Owner’s statement of the fact that “Snell does not identify at all (and certainly not ‘with detailed particularity’) communication using a polled scheme as the specific material it incorporates” and instead “identifies only the ‘filters’ and ‘oscillators’ described in Harris AN9614 as the specific material it incorporates.” Reply at 65-66 (citing Snell at 5:2-7).

In the Reply, Rembrandt argued that the claimed “master/slave relationship” is not inherent in Harris AN9614’s “polled scheme.” Reply at § VI.A.3 (pages 78-81) (supported by, *inter alia*, Akl Dec. at ¶¶ 112-120). The Examiner failed to respond to this argument and the evidence supporting it. *See* Final Office Action at 25-29. For instance, the Examiner did not dispute Patent Owner’s assertion that the Office “has failed to provide a ‘basis in fact and/or technical reasoning to reasonably support’ the determination that the master/slave limitations in the challenged claims necessarily flow from the teachings of Snell (even presuming that Harris AN9614 had been properly incorporated).” Reply at 79. Moreover, Rembrandt argued that:

[T]o the extent that the Office is equating Harris AN9614’s “polled scheme” to a master/slave configuration, that position is based on a faulty understanding of the scope of “polling” in the relevant art and on an incorrect reading of Harris AN9614 and the ‘580 Patent. While polling can also take place in a master/slave system, *see* ‘580 Patent at 4: 6-9 (describing its master/slave protocol as a “polled multipoint communications protocol,”) that discussion does not limit polling – which is a more general term in the relevant art -- to master/slave protocols but rather describes one aspect of the claimed protocol. In fact, there is no suggestion in Harris AN9614 that its “polled scheme” is taking place in anything other than the peer-to-peer communications protocol being discussed in Harris AN9614. *See* Harris AN9614 at 3. Akl, at ¶ 119. *See also infra* at § VII.C (discussing the need to maintain a peer-to-peer system in order to maintain compatibility with the IEEE 802.11 standard).

Reply at 80. The Examiner continues to equate Harris AN9614’s “polled scheme” to a master/slave configuration, Final Office Action at 29 (“[a] polled protocol is a master/slave

protocol”), but failed to respond to Patent Owner’s contrary arguments and the evidence supporting those arguments. *See* Final Office Action at 25-29.

In the Reply, Rembrandt argued that:

The primary reference, Snell, discloses a transceiver 30, Snell at Fig. 1, 4:42-43, designed for peer-to-peer communications, such as carrier sense multiple access with collision avoidance (CSMA/CA) communications. *See* Snell at 5:26-29 (disclosing that Snell’s transceiver includes a “CCA circuit block 44” that “provides a clear channel assessment (CCA) to avoid data collisions,” i.e., collisions which do not occur in a master/slave setting). *See also* Fig. 1. Akl, at ¶ 104. Systems that implement a CSMA/CA protocol for collision avoidance are distinctly different than a master/slave system. In a CSMA/CA system, any device on the network can initiate a communication whenever the device determines that no other communications are occurring. In stark contrast, the claims of the ‘580 Patent are limited to master/slave communications, as noted above, in which slave devices can only communicate on a network when prompted by a master.

Reply at 73 (supported by Akl Dec. at ¶ 104). The Examiner asserts that “Snell’s transceiver is not set up only in a peer to peer communication. In fact, Snell is silent on what kind of setting the transceiver is in.” Final Office Action at 39. The Examiner’s assertion that Snell is silent ignores Rembrandt’s argument explaining why Snell is not silent and instead discloses a transceiver that “includes a ‘CCA circuit block 44’ that ‘provides a clear channel assessment (CCA) to avoid data collisions,’ i.e., collisions which do not occur in a master/slave setting.”

Reply at 73 (supported by Snell at 5:26-29 & Fig. 1; and by Akl Dec. at ¶ 104). Accordingly, the Examiner failed to respond to this argument as well.

For the reasons set forth above, the Examiner failed to address the substance of numerous arguments for patentability despite the MPEP’s requirement to do so. *See* MPEP §§ 707.07(f), 2271. Accordingly, Rembrandt respectfully requests that the Final Office Action be vacated or at least made non-final.

**Final Office Action Should be Vacated Because Examiner Failed to Comment on the Akl Dec. and Failed to Explain Why the Akl Dec. Is Insufficient to Overcome the Rejections**

As set forth in the MPEP:

Evidence traversing rejections, when timely presented, must be considered by the examiner whenever present. All entered affidavits, declarations, and other evidence traversing rejections are acknowledged and commented upon by the examiner in the next succeeding action. ... Where the evidence is insufficient to overcome the rejection, the examiner must specifically explain why the evidence is insufficient. General statements such as “the declaration lacks technical validity” or “the evidence is not commensurate with the scope of the claims” without an explanation supporting such findings are insufficient.

MPEP § 716.01. *See also* MPEP § 716 (“It is the responsibility of the primary examiner to personally review and decide whether affidavits or declarations submitted under 37 CFR 1.132 for the purpose of traversing grounds of rejection are responsive to the rejection and present sufficient facts to overcome the rejection.”); MPEP § 2145 (“Office personnel should consider all rebuttal arguments and evidence presented by applicants. ... Consideration of rebuttal evidence and arguments requires Office personnel to weigh the proffered evidence and arguments.”).

Here, Rembrandt timely submitted Dr. Akl’s declaration on June 30, 2017 with the Reply to the non-final Office Action, which was prior to the final rejection issued on July 18, 2017. *See* MPEP § 716.01 (“Affidavits and declarations submitted under 37 CFR 1.132 and other evidence traversing rejections are considered timely if submitted [*inter alia*] prior to a final rejection.”). The Examiner noted that it had been submitted. Final Office Action at 3 (“The Jun 2017 Reply includes, among other things, remarks ... and declarations by Robert Aki [*sic*] ... 37 C.F.R. § 1.132.”). The Examiner did not mention the declaration again. *See id. passim*. Thus, the Examiner failed to address any of the evidence submitted in the Akl declaration supporting Rembrandt’s arguments, despite the requirement to do so. MPEP § 716.01 (“All entered affidavits, declarations, and other evidence traversing rejections are acknowledged *and*



*commented upon* by the examiner in the next succeeding action.” (Emphasis added.)). In addition, although the Examiner maintained the rejections, the Examiner failed to explain specifically why the evidence in the declaration was not sufficient to overcome the rejections despite the requirement to do so. MPEP § 716.01 (“Where the evidence is insufficient to overcome the rejection, the examiner *must* specifically explain why the evidence is insufficient.” (Emphasis added.)). Thus, there is no evidence in the Final Office Action that the Examiner considered evidence in the Akl declaration, as the Examiner is required to do. MPEP § 716.01 (“Evidence traversing rejections, when timely presented, *must* be considered by the examiner whenever present.” (Emphasis added.)).

This shortcoming of the Final Office Action applies to all of Rembrandt’s arguments that are supported by the Akl Declaration. However, the Examiner’s failure to consider and comment on the evidence in the Akl Declaration is particularly problematic with respect to the evidence in the Akl Declaration that supports Rembrandt’s arguments why one of ordinary skill in the art would not have been motivated to modify the cited art or combine it in the way the Examiner has proposed. *See, e.g.*, Reply at 94-103 (supported by Akl Dec. at ¶¶ 152-178); Final Office Action at 38-42.

Rembrandt respectfully requests that the Office (a) withdraw its rejections because the evidence submitted through Dr. Akl is sufficient to overcome the rejections or (b) issue a new Office Action that adequately comments on that evidence and explains why the Examiner believes it is not sufficient to overcome the rejections, as required by MPEP § 716.01.

**Finality Must be Withdrawn so that Patent Owner may Challenge the Examiner’s New Arguments and Submit Evidence in Response**

In the Final Office Action, the Examiner introduced several new arguments, including: (i) Snell discloses inherently a destination address, Final Office Action at 41-42, (ii) the meaning of

“different type[s]” of modulations methods, *id.* at 31-32, (iii) the transceiver of Snell is capable of acting as a master in a master/slave relationship because the transceiver of Snell can provide an access point for a WLAN, *id.* at 38, and (iv) and reliance on the Declaration of David Goodman (“Goodman Dec.”).

New Argument 1: Snell Discloses Inherently a Destination Address

With respect to the alleged inherent teaching of Snell, the Examiner argues for the first time that “Snell inherently teaches” a destination address. Final Office Action at 41-42 (“It is known the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. Yamano is introduced only if a reviewing person does not agree that Snell inherently teaches it.”). The argument is new because the Examiner did not previously rely on Snell as disclosing inherently the destination address feature. *See* Non-Final Office Action at 9-11, 14, 16-17. In particular, in the anticipation rejections set forth in the Non-Final Office Action, the Examiner did not give patentable weight to the destination address feature. *Id.* at 9-11. In the obviousness rejections, the Examiner did not rely on Snell as disclosing the destination address feature and instead relied on Yamano. *Id.* at 14 (“Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion. Yamano discloses ...”), 16-17 (“Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence. Yamano discloses ...”).

Rembrandt respectfully requests that the Office withdraw the finality of the rejections relying on the new inherency argument so that Rembrandt may challenge this argument and submit evidence showing that Snell does not disclose inherently the destination address feature of claims 2 and 59.

### New Argument 2: New Definition of “Different Type[s]” of Modulation Methods

With respect to different types of modulation methods, the Examiner for the first time argues that “different type[s]” or “incompatible” has a new meaning with respect to modulation methods. Final Office Action at 31-32. By doing so, in the Final Office Action, the Examiner sets forth a new interpretation of the claimed “different type[s]” of modulation methods.

Claims 2 and 59 of the ‘580 Patent recites that “the second modulation method is of a different type than the first modulation method.” The Examiner previously defined “different types of modulation method [*sic*]” as “modulation methods that are incompatible with one another.” Non-Final Office Action at 7 (citing the PTAB’s Final Written Decision in the ‘518 IPR at 12:18-19; Request at 12, 19-23). However, the Examiner never defined the meaning of “incompatible.” *Id.*<sup>1</sup> In the Reply, Rembrandt pointed out that the Office had not defined “incompatible” and argued that, in the context of the ‘580 Patent, “first and second modulation methods may be incompatible when, for example, one modem using the first method cannot communicate with a second modem using the second method, i.e., when no common modulation method is shared.” Reply at 82-83 (citing Akl Dec. at ‘580 Patent at col. 1, ll. 45-65; Akl at ¶ 125). *See also* Reply at 43, n. 16 (citing ‘580 Patent, col. 1, ll. 45-65; Akl Dec. at ¶ 26). In the Final Office Action, the Examiner introduces a new definition of “incompatible.” Final Office Action at 31-32. In particular, the Examiner makes a new argument that first and second modulation methods are “different type[s]” or “incompatible” if “they use different algorithms when performing modulation and the data modulated with the [first modulation method] cannot be demodulated with a [second modulation method] demodulator or vice versa.” *Id.* at 31. In

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<sup>1</sup> Likewise, although the PTAB “interpret[ed] different ‘types’ of modulation methods as modulation methods that are incompatible with one another,” the PTAB did not define the meaning of “incompatible.” Final Written Decision in the ‘518 IPR at 12.

addition, based on the Examiner's new definition of "different type[s]," the Examiner for the first time argues that "BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator or vice versa." *Id.*

Rembrandt respectfully requests that the Office withdraw the finality of the rejections relying on the new argument as to the meaning of the claimed "different type[s]" of modulation methods so that Rembrandt has the opportunity to twice challenge these new arguments and submit evidence showing that (i) the Examiner's new interpretation of "different type[s]" of modulation methods is incorrect and (ii) even under the Examiner's new interpretation, BPSK and QPSK are not different types of modulation methods.

New Argument 3: WLAN Access Point Means Master in Master/Slave Relationship

With respect to the claimed master/slave relationship, the Examiner for the first time argues that Snell's disclosure that the transceiver can provide an access point for a wireless access point supports the Examiner's position that the transceiver of Snell is capable of acting as a master in a master/slave relationship. Final Office Action at 38 (citing Snell at 1:34-46) ("[t]o the extent that a master/slave relationship should be given patentable weight, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network ..."), 28 (citing Snell at 1:34-46) ("Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network").

Rembrandt respectfully requests that the Office withdraw the finality of the rejections relying on the new master/slave relationship argument so that Rembrandt may challenge this argument and submit evidence showing that Snell's access point does not disclose inherently the master/slave feature of claims 2 and 59.

New Argument 4: Reliance on the Goodman Declaration

In addition, in the Final Office Action, the Examiner relies on the Goodman Declaration. for the first time. Final Office Action at 29 (citing IPR2014-00518, Exhibit 1220 at ¶ 103). Rembrandt respectfully requests that the Office withdraw the finality of the rejections relying on Goodman Dec. so that Rembrandt may challenge the statements made in the Goodman Dec. and submit rebuttal evidence.

This Petition is timely filed, i.e., within two months of the Final Office action mailed July 18, 2017. To the extent the Office believes any rules prevent consideration of this petition, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this Petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: September 18, 2017

By: /Michael V. Battaglia/  
Michael V. Battaglia  
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*Attorney for Petitioner  
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cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 18th day of September, 2017, the foregoing **PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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Ropes & Gray LLP  
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/Michael V. Battaglia/  
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Reg. No. 64,932

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808			
<b>Filing Date:</b>	12-Sep-2016			
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS			
<b>First Named Inventor/Applicant Name:</b>	8023580			
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington			
<b>Attorney Docket Number:</b>	3277-0114US-RXM1			
Filed as Large Entity				
<b>Filing Fees for ex parte reexam</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
PETITION IN REEXAM PROCEEDING	1824	1	1940	1940
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>1940</b>



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	30391116
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	18-SEP-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:08:59
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$1940
RAM confirmation Number	091917INTEFSW00003011022135
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		808Response.pdf	1350982	yes	31
			daf7e9e015181e7c4d5f5aa5431b2cf22ed429bf		

Multipart Description/PDF files in .zip description					
Document Description		Start	End		
Reexam Response to Final Rejection		1	30		
Reexam Certificate of Service		31	31		

**Warnings:**

**Information:**

2	Reexam Miscellaneous Incoming Letter	AkiDeclaration.pdf	142461	no	7
			cf6819b03bde6f49fe9e79bd7374324a8606a96b		

**Warnings:**

**Information:**

3		Petition.pdf	93991	yes	17
			03e569f13a681af8e480aed1b3ad7311ce30c521		

Multipart Description/PDF files in .zip description					
Document Description		Start	End		
Receipt of Petition in a Reexam		1	16		
Reexam Certificate of Service		17	17		

**Warnings:**

**Information:**

4	Fee Worksheet (SB06)	fee-info.pdf	30664	no	2
			142716c5c010dd3a2ca3ea62bb185dc5d088bfca		

**Warnings:**

**Information:**

**Total Files Size (in bytes):** 1618098

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 18th day of September, 2017, the foregoing **PETITION REQUESTING TERMINATION OF GROUNDS OF REJECTION PURSUANT TO 37 C.F.R. § 1.181** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
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/Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	30397569
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	18-SEP-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:59:34
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PetitionReqTermination.pdf	113676  ee543823b96a79be2c154b011a6177caa026d4bd	yes	16

<b>Multipart Description/PDF files in .zip description</b>			
<b>Document Description</b>		<b>Start</b>	<b>End</b>
Petition for review by the Office of Petitions		1	15
Reexam Certificate of Service		16	16

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	113676
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

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**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Ex Parte Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop "Ex Parte Reexam"  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING RECONSIDERATION OF OPLA'S NOVEMBER 28,  
2016 DISMISSAL OF REMBRANDT'S SEPTEMBER 30, 2016 PETITION UNDER  
RULE 181/182 REQUESTING THE DIRECTOR TO EXERCISE HER  
DISCRETIONARY AUTHORITY UNDER 35 U.S.C. § 325(D) AND A FINAL PETITION  
DECISION IN ACCORDANCE WITH PTAB PRACTICE**

Patent Owner ("Rembrandt") respectfully requests (1) reconsideration of OPLA's November 28, 2016 Dismissal ("580 Petition Dismissal") of Rembrandt's September 30, 2016 "Petition Requesting the Director to Exercise Her Discretionary Authority Under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 1.181(a)(2) and/or § 1.182" ("580 Petition") and (2) a Final Petition Decision in accordance with the PTAB's consistent § 325(d) practice for the reasons given below.

Rembrandt is not aware of any regulation which would render Rembrandt's request for reconsideration and a final petition decision untimely or prevent OPLA's consideration of Rembrandt's request, particularly given that OPLA has not yet issued a final decision on the '580

Petition and further in view of the CRU's perpetuation of the Office's errors and material changes in facts in the July 18, 2017 Final Office Action ("FOA"). For example, in the FOA the CRU conceded substantial similarity between at least some of the art and arguments in the present reexamination and those previously presented to the Office in the Third Party Requester's thirteen previous IPR petitions. *See, e.g.*, FOA at 40 ("Further, claims 1 and 58 recite using multiple modulations and it is determined by PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation of claims 1 and 58 "); *see also, e.g.*, page 35, *infra*. The CRU's concession of substantially similar art cited in the present proceeding and that previously presented to the Office is a material change in fact that must be taken into consideration in an analysis pursuant to § 325(d). This material change in fact only came to light in the FOA of July 18, 2017, and therefore, the present request to revisit the Petition Dismissal is timely. Nevertheless, to the extent OPLA believes a regulation exists that would render the present request is untimely, Rembrandt further petitions the Director to suspend any such regulation under the power granted to the Director by 37 C.F.R. § 1.183.

On September 12, 2016, Third Party Requester ("Samsung") filed a request for *ex parte* reexamination of U.S. Patent 8,023,580 ("580 Patent"). On September 30, 2016, Rembrandt filed the '580 Petition in Ex Parte Reexamination Control No. 90/013,808 ("808 Reexamination"). Samsung filed an opposition to the '580 Petition on October 13, 2016. On October 25, 2016, Rembrandt filed a reply to Samsung's opposition. The Office of Patent Legal Administration ("OPLA") treated the '580 Petition as a petition to vacate the order granting



reexamination mailed September 27, 2016 and to issue an order denying reexamination pursuant to § 325(d). '580 Petition Dismissal, at 3.<sup>1</sup>

Section 325(d) gives the Director discretion to deny a reexamination request when "the same or substantially the same prior art or arguments *previously were presented* to the Office." Thus, even prior to considering the substantial new question issue and the analysis that entails, the Director has the power to curb abuse of the reexamination system under § 325(d).<sup>2</sup> However, while exercise of that power is discretionary, the statute obligates the Director to at least determine whether substantially the same art *or* arguments were previously presented. Failure to do so is contrary to the statute and Congressional intent (as explained further below).

In this case, without determining whether the same *or substantially the same* art *or* arguments had been previously presented to the Office through a comparison of the art and arguments presented in the request with those previously presented, OPLA dismissed the '580 Petition. '580 Petition Dismissal, at 6-7.<sup>3</sup> Instead of making the necessary comparison, OPLA improperly placed the burden on Rembrandt to do so.<sup>4</sup> *Id.* at 3-4. OPLA then proceeded to

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<sup>1</sup> A complete history of the events relevant to this reconsideration request are included in Exhibit 2.

<sup>2</sup> By considering § 325(d) as a threshold matter, the Director can exercise his/her discretion prior to making the substantial new question ("SNQ") determination under § 304. This order of consideration would conserve Office resources and clearly *is* permitted by § 325(d) ("In determining whether to ... order a proceeding under chapter 30 ...."). OPLA's statement to the contrary, i.e., that the petition could not have been filed before the reexamination was ordered ('580 Petition Dismissal, at 3) cannot be correct. However, such an order is not required. *See Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 5.

<sup>3</sup> In dismissing the '580 petition, OPLA considered the '580 Petition and Samsung's opposition but not Rembrandt's reply.

<sup>4</sup> Rembrandt believes this burden rests on the Director. Of course, the Director has the option of refusing to order reexamination if a requester fails to provide the necessary comparison as part of

focus on the issues raised by § 304 rather than those raised by § 325(d), based primarily on OPLA's misunderstanding of the relationship between 35 U.S.C. § 325(d) and § 304. *Id.* at 4-6. The CRU perpetuated those errors in the FOA, mailed July 18, 2017.

Rembrandt respectfully disagrees with OPLA's approach as explained further below. Again, the Director has an obligation to at least consider whether he/she should exercise his/her discretion when "the same or substantially the same prior art or arguments were previously presented to the Office." Accordingly, Rembrandt respectfully requests OPLA to reconsider its earlier dismissal and render a final decision on the '580 Petition by exercising the Director's § 325(d) authority to vacate and terminate the improvidently ordered *ex parte* reexamination of the '580 Patent. Should OPLA render a final decision without considering whether "the same or substantially the same prior art or arguments were previously presented to the Office," such a decision would be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

**I. Reconsideration of the '580 Petition Dismissal is Warranted Based on the Office's Misunderstanding of the Second Sentence of 35 U.S.C. § 325(d)**

The second sentence of 35 U.S.C. § 325(d) states:

In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.

As reflected in the '580 Petition Dismissal and the FOA, OPLA and the CRU misunderstand the obligations and authority this statute imposes on the Office, its relationship to 35 U.S.C. § 304, the requirements for its consideration and application, its application in *ex parte*

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its request (in the present case, Samsung failed to provide such a comparison in its request). In any case, Rembrandt responds to OPLA's criticism by providing such a comparison in section II.A, *infra*, and Exhibit 3.

reexamination compared to *inter partes* review, and the Office's consistent agency practice with respect to its consideration and application.

***A. The '580 Petition Dismissal Misunderstands the Relationships between §§ 325(d) and 304***

In the '580 Petition Dismissal, OPLA takes the position that 35 U.S.C. § 304 does not permit the Office to deny a request for reexamination pursuant to 35 U.S.C. § 325(d) when the petition for reexamination presents a substantial new question of patentability. '580 Petition Dismissal, at 4-6 ("The statute merely permits the Office, within the Office's discretion, to reject the request if the same or substantially the same prior art or arguments previously were presented to the Office with respect to that patent. 35 U.S.C. 304, however, *requires* the Office to order reexamination if the Office finds that a substantial new question of patentability affecting any claim of the patent concerned is raised by the request.")(emphasis original).

With all due respect, OPLA misunderstands the relationship between §§325(d) and 304. The Office's own prior decisions confirm OPLA's error. For example, the Board has previously explained that:

Under section 325(d), second sentence, however, the Office could nevertheless refuse a subsequent request for *ex parte* reexamination with respect to such an issue, **even if it raises a substantial new question of patentability**, because the issue previously was presented to the Office in the petition for *inter partes* or post-grant review.

*Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 6 (emphasis added). The panel in *Ariosa* reached this conclusion based on a clearly expressed intent behind the inclusion of the second sentence in § 325(d). As explained in the legislative history of the America Invents Act:

In the second sentence of 325(d), the present bill also authorizes the Director to reject **any** request for *ex parte* reexamination or petition for post-grant

or *inter partes* review on the basis that the same or substantially the same prior art or arguments previously were presented to the Office. This will prevent parties from mounting attacks on patents that raise issues that are substantially the same as issues that were already before the Office with respect to the patent. The Patent Office has indicated that it currently is **forced to accept many requests for ex parte and inter partes reexamination** that raise challenges that are cumulative of or substantially overlap with issues previously considered by the Office with respect to the patent.

157 Cong. Rec. S1360-S1394, S1376 (emphasis added).

In other words, the purpose behind the second sentence of § 325(d) is to permit the Office to reject reexamination requests that it was previously "forced to accept." Of course, the only such requests that the Office was forced to accept were those that presented a substantial new question of patentability. 35 U.S.C. §§ 302-304. Because § 325(d) is intended to permit the Office to reject requests for reexamination that it previously was forced to grant, i.e., those that presented a substantial new question of patentability, it *must* be the case that § 325(d) permits the Office to deny requests that present a substantial new question of patentability; a result correctly reached by the panel in *Ariosa*.

Said differently, the '580 Petition Dismissal essentially reads the second sentence of § 325(d) out of the statute. OPLA takes the position that § 325(d), which was implemented *after* § 304, only permits the Office to deny reexamination requests that do not present a substantial new question of patentability. '580 Petition Dismissal, at 4. Of course, the Office lacks authority to grant such requests and has no discretion to do otherwise. 35 U.S.C. § 303(a); *see also Ethicon, Inc. v. Quigg*, 849 F. 2d 1422, 1427 (Fed. Cir. 1988) ("The Commissioner, on the other hand, has no inherent authority, only that which Congress gives."). Accordingly, OPLA reads the second sentence of § 325(d) as a nullity providing no meaning beyond that already in the law. Such an interpretation must be incorrect. *Williams v. Taylor*, 529 US 362, 404 (2000) ("It is,

however, a cardinal principle of statutory construction that we must give effect, if possible, to every clause and word of a statute.") (internal quotations omitted); *Walton v. United States*, 551 F. 3d 1367, 1370 (Fed. Cir. 2009); *BASR Partnership v. United States*, 795 F.3d 1338, 1360 (Fed. Cir. 2015). Furthermore, as indicated above, the legislative history of the America Invents Act makes explicitly clear the intended effect for the second sentence of § 325(d): providing the authority for the Director to deny requests for reexamination even if those requests present a substantial new question of patentability.

In fact, the Director has championed Rembrandt's interpretation of the authority provided by § 325(d) to the Court of Appeals for the Federal Circuit. "Brief for the Intervenor, Director of USPTO," *Ariosa Diagnostics v. Illumina, Inc.*, Fed. Cir. Appeal Nos. 2016-2388, 2017-1020, filed April 26, 2017, at 12, 23-24 ("[u]nder section 325(d), second sentence ... the Office could ... refuse a subsequent request for ex parte reexamination with respect to such an issue, even if it raises a substantial new question of patentability, because the issue previously was presented to the Office in the petition for inter partes or post-grant review.").

Accordingly, the '580 Petition Dismissal is based on a clear misunderstanding of the authority provided by the second sentence of § 325(d) – one that conflicts with how § 325(d) is interpreted and applied by the Office. Rembrandt respectfully requests reconsideration of the '580 Petition Dismissal in view of the clear meaning of the second sentence of § 325(d) relative to that of § 304.

***B. The '580 Petition Dismissal Incorrectly Requires an Instituted or Completed Proceeding Before § 325(d) Applies***

In the '580 Petition Dismissal, OPLA incorrectly determined that failure to institute an *inter partes* review upon certain grounds or based on certain art prevents the Office from

applying 325(d) to deny a subsequent reexamination request based upon substantially the same art. *See, e.g.*, '580 Petition Dismissal at 4-5 ("In fact, only two of the *inter partes* reviews included challenges to claims 2 and 59, and in each case, review of these claims was denied.").<sup>5</sup> Accordingly, OPLA has taken the position that § 325(d)'s instruction to take into account whether or not "the same or substantially the same prior art or arguments previously *were presented to the Office*" is limited to considering issues which have been considered after an *inter partes* review trial has begun and has been completed. Again, with due respect, this is an incorrect application of § 325(d). The Office's own decisions, including those held up as "informative" by the Board, illustrate that a previously denied petition for *inter partes* review is more than sufficient to deny a subsequent request for review pursuant to § 325(d). *See, e.g., Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25 at 4-5. In other words, issues "presented to the Office" in a petition for *inter partes* review, even if the petition is denied, are sufficient "presentation" for denying a subsequent petition for review *or* subsequent request for reexamination under § 325(d).

In *Unilever*, the Board denied a subsequent petition for *inter partes* review after determining that the art and arguments presented in the second petition were substantially the same as those presented in an earlier first petition. *Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25 at 4-5. The Board relied upon its authority pursuant to § 325(d) to deny the

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<sup>5</sup> For completeness, Rembrandt notes that OPLA incorrectly stated that "only two of the *inter partes* reviews included challenges to claims 2 and 59 [of the '580 patent]." '580 Petition Dismissal at 5. Claims 2 and 59 have been unsuccessfully challenged in *inter partes* reviews IPR2014-00514, IPR2014-00518, and IPR2015-00114, as well as in a related litigation. In any case, OPLA's apparent focus on only the *inter partes* reviews involving a challenge to claims 2 and 59 of the '580 Patent ignores the close relationship between the '580 and '228 Patents and the significant overlap of the art and arguments presented repeatedly in each. Exhibit 2 identifies the many attacks on these patents and the harassment that the PTAB recognized when it applied § 325(d).

second petition even though the Board had previously declined to institute an *inter partes* review in response to the first petition. *Id.* Clearly, based on *Unilever*, an earlier denied petition is more than sufficient "presentation" to the Office to deny a subsequent request for reexamination pursuant to 35 U.S.C. § 325(d).

*Unilever* also clarifies that a subsequent request for review of a patent may be decided pursuant to 35 U.S.C. § 325(d) even when the art in the subsequent review is different than that cited in an earlier denied petition for *inter partes* review. *Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25 at 5 ("Unilever points out differences between the art and arguments raised in the two petitions. We did not overlook these differences. ... We considered the differences, but found the art and arguments are nonetheless 'substantially the same' within the meaning of the statute.") (internal citations omitted).

Furthermore, OPLA should not lose sight of the fact that the PTAB did in fact render decisions regarding claims 2 and 59 of the '580 patent and did finally conclude the *inter partes* review. With respect to claims 2 and 59, the PTAB was "not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge" of these claims. *Samsung Electronics Co. Ltd., v. Rembrandt Wireless Technologies, LP*, IPR2014-00518, paper 17 at 15. The PTAB's decision regarding claims 2 and 59 was based on art and arguments that are substantially the same and cumulative of the art cited in the '580 reexamination. *See, infra*, section II.A, Exhibit 3. While again, Rembrandt believes it is not its burden to compare the art and arguments presented in the earlier proceedings with that presented in the '580 reexamination, that

comparison has been made (*see* section II.A, *infra*, and Exhibit 3) and supports the application of § 325(d).<sup>6</sup>

Accordingly, the '580 Petition Dismissal is based on a clear misunderstanding of the second sentence of § 325(d) and the obligation placed on the Office by that sentence. Section 325(d) provides authority to reject a subsequent request for reexamination over an earlier filed petition for *inter partes* review even when the earlier filed petition did not result in an instituted *inter partes* review of the challenged claims (as is the case here). *See* IPR2015-00114, paper 14, at 4, 6-8 (applying § 325(d) to reject another attack on claims 2 and 59 even though *inter partes* review of claims 2 and 59 had never been instituted on these claims); IPR2015-00555, paper 20, at 5, 7-9 (applying § 325(d) to reject another attack on claim 21 even though *inter partes* review of claim 21 had never been instituted on that claim). Furthermore, § 325(d) provides authority to deny a subsequent reexamination request even when the art being cited is not the same as that previously presented to the Office. *See Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25 at 5; IPR2015-00555, paper 20, at 7-9 (applying § 325(d) to reject another attack on claim 21 even though allegedly "new" art (Siwiak) had not been cited in the earlier *inter partes* review petition). Again, Rembrandt respectfully requests reconsideration of the '580 Petition Dismissal in view of the clear meaning of the second sentence of § 325(d) which provides the Director with the authority to deny a subsequent request for reexamination over a previously denied petition for *inter partes* review based on newly cited references. In fact, based on the language of §

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<sup>6</sup> Again, there is no requirement that *patent owner* show that the art presented in a follow-on request for review is substantially the same or cumulative of that presented in an earlier request in order for the Office to exercise its authority pursuant to § 325(d). *See, e.g., Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63 at 11-12; *Samsung Electronics Co. Ltd., v. Rembrandt Wireless Technologies, LP*, IPR2015-00555, paper 20, at 6-9 (denying request under § 325(d) without patent owner arguing that § 325(d) should be applied).



325(d), this would be true even if the art is not substantially the same, if the arguments are substantially the same. See § 325(d) ("the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art **or** arguments previously were presented to the Office").

***C. OPLA Incorrectly Assumes the Analysis Pursuant to § 325(d) is Different for Inter Partes Review and Ex Parte Reexamination***

In the '580 Petition Dismissal, OPLA posits that the standard for denying a reexamination request pursuant to § 325(d) is somehow different than denying a subsequent *inter partes* review petition. '580 Petition Dismissal at 5 ("The patent owner points out that the Patent Trial and Appeals Board (Board), when determining whether to institute an *inter partes* review, has analyzed whether a petitioner has shown whether the art or arguments were known or available to the requester at the time of filing the earlier *inter partes* reviews. The present proceeding, however, is an *ex parte* reexamination proceeding, not an *inter partes* review. The standard for determining whether a request for *ex parte* reexamination is granted is whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request. . ."). As a result, OPLA declined to consider factors that the Office has consistently applied when making determinations pursuant to § 325(d). *Id.* However, there is no such distinction in the law; § 325(d) applies equally to chapter 30 (the *inter partes* review chapter) and chapter 31 (the *ex parte* reexamination chapter) of Title 35 of the U.S. Code. Furthermore, no such distinction has ever been recognized by the Office. See, e.g., *Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63.

For example, in the *Ariosa* case, the Office rejected a subsequently filed *ex parte* reexamination request using the same factors that the Office used in the *Unilever* case to reject a

subsequently filed *inter partes* review petition. *Compare Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, Paper 63, at 10-12 with *Unilever v. Proctor & Gamble*, IPR2014-00506, paper 17, at 5-8; paper 25 at 2-5. In fact, in the *Ariosa* case the Office explicitly considered whether or not the references cited in the subsequently filed *ex parte* reexamination request were known to the requester at the time of the earlier filed petition for *inter partes* review. *Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 12 ("Finally, Petitioner does not appear to have offered any explanation as to why those references could not have been relied upon in the petitions for *inter partes* review in IPR2013-00276 and IPR2013-00277."). Respectfully, OPLA is simply mistaken that such factors are not part of a § 325(d) analysis. *Contrast Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 12 with '580 Petition Dismissal, at 5.

Accordingly, Rembrandt respectfully requests reconsideration of the '580 Petition Dismissal so that OPLA can fairly and consistently apply § 325(d) pursuant to the Office's procedures as followed in the *Unilever* and *Ariosa* cases, including consideration of the all of the relevant factors, such as whether or not the art cited in the reexamination request was available to and known by Samsung at the time of the earlier filed *inter partes* review petitions.

***D. The '580 Petition Dismissal is Arbitrary as it Deviates From Consistent Agency Practice***

As illustrated above (*see supra* at sections I.A-C), the '580 Petition Dismissal deviates from consistent agency practice regarding the interpretation and application of § 325(d). Specifically, the Office has consistently interpreted § 325(d) as charging the Office with the responsibility to consider whether the authority given to it by § 325(d) should be exercised to reject a subsequent challenge to the patentability of an issued claim, including one made through

a request for *ex parte* reexamination, even if the request presents a substantial new question of patentability. The '580 Petition Dismissal takes the exact opposite approach. *Compare* '580 Petition Dismissal, at 4-6 *with* "Brief for the Intervenor, Director of USPTO," *Ariosa Diagnostics v. Illumina, Inc.*, Fed. Cir. Appeal Nos. 2016-2388, 2017-1020, filed April 26, 2017, at 12, 23-24 *and Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 6; *see also Unified Patents, Inc., v. PersonalWeb Techs., LLC*, IPR2014-00702, paper 13; *Medtronic Inc., v. Nuvasive, Inc.*, IPR2014-00487, paper 8; *Prism Pharma Co. Ltd., v. Choongwae Pharma Corp.*, IPR2014-00315, paper 14; *Medtronic Inc., v. Robert Bosch Healthcare Systems, Inc.*, IPR2014-00436, paper 17; *Intelligent Bio-Systems, Inc., v. Illumina Cambridge Ltd.*, IPR2013-00324, paper 19; *ZTE Corp. v. ContentGuard Holdings, Inc.*, IPR2013-00454, paper 12. "An unexplained inconsistency in agency policy is a reason for holding an interpretation to be an arbitrary and capricious change from agency practice." *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126 (2016)(internal quotations omitted). Accordingly, the '580 Petition Dismissal, if made final in its present form, would represent an unlawful agency action. 5 U.S.C. § 706(2)(A) ("The reviewing court shall hold unlawful and set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law ...").

The failure of OPLA to properly consider whether the '808 reexamination should be terminated under § 325(d) is particularly troublesome as the '580 Patent (and its continuation, U.S. Patent 8,457,228) have been previously challenged by Samsung in *thirteen* IPRs, and in district court litigation, all of which have concluded in Rembrandt's favor with respect to the validity of claims 2 and 59 of the '580 Patent (and of claim 21 of the '228 patent). *See* Exhibit 2.

This number of challenges is extreme.<sup>7</sup> As illustrated in the discussion *supra*, it is the Office's consistent practice to deny follow-on petitions for review when petitioners have been given significantly fewer "bites at the apple" than is the case here. The PTAB has followed this consistent practice with regard to Samsung's multiple challenges to the '580 and '228 Patents. When the PTAB was faced with Samsung's cumulative follow-on petitions, it considered whether the Director's authority under § 325(d) should be exercised and correctly declined to institute further *inter partes* reviews. *Samsung v. Rembrandt Wireless Tech., LP*, IPR2015-00555, Paper 20, at 7-9. *See also Samsung v. Rembrandt Wireless Tech., LP*, IPR2015-00114, Paper 14 at 7; *Samsung v. Rembrandt Wireless Tech., LP*, IPR2015-00118, Paper 14 at 6-7. OPLA's '580 Dismissal to the contrary is inexplicable.

The America Invents Act was implemented to provide *inter partes* review as a substitute for litigation and to correct the problems in reexamination that forced the Office to accept serial challenges. *See, e.g.*, 157 Cong. Rec S1360-S1394, S1376. Here, Samsung has already frustrated that purpose as it has been permitted to challenge the '580 Patent (and '228 Patent) in both litigation and *inter partes* review. OPLA has now permitted Samsung to further frustrate the purpose of the America Invents Act by allowing Samsung's fifteenth and sixteenth challenges to Rembrandt's two patents to proceed.

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<sup>7</sup> *See, e.g.*, the Remarks by Michelle K. Lee at the George Washington University School of Law on May 16, 2017: "In sum, the data shows that the large majority of patents are only challenged only one time in AIA trials. And a relatively small percentage are challenged more than two times. Although it is important to understand the overall numbers, we understand that multiple challenges to even a single patent are a serious concern to our patent holders. And even a single challenge simply to harass a patent owner is unacceptable." The pie chart accompanying Director Lee's presentation indicates that less than 0.5% of the patents challenged in IPRs are challenged 7 times or more.

The mistaken dismissal by the Office of Rembrandt's § 325(d) Petition is highlighted by the fact that the CRU has determined in this proceeding that at least some of the references cited in the present proceeding are the same as those in the earlier filed IPRs and relies on this equivalency in an attempt to justify the grounds of rejection. *See, e.g.*, FOA at 40. Specifically, the Examiner argues that:

Harris AN9614 is used to show that the transceiver of Snell can be used in a master/slave relationship. Further, claims 1 and 58 recite using multiple modulations and it is determined by PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation of claims 1 and 58.

FOA at 40.

This argument supports Rembrandt's position that the Office should exercise its discretion under § 325(d): the CRU recognizes that the teachings of these references are the same and relies on this equivalency for its own purposes while simultaneously declining to recognize this equivalency for purposes of the analysis under § 325(d). These internally inconsistent positions undermine any argument by the Office that it is fairly and consistently applying § 325(d) in the current proceeding.

Accordingly, Rembrandt respectfully requests reconsideration of the '580 Petition Dismissal and a final decision that conforms to the Office's consistent agency practice. Without such a final decision, the '580 Petition Dismissal represents an unlawful exercise of the Office's authority.

***E. The CRU Has Perpetuated OPLA's Errors by Failing to Properly Consider the Issues "Previously ... Presented to the Office"***

In the FOA of July 18, 2017 in the '808 reexamination ("FOA"), the CRU perpetuates OPLA's errors by taking the untenable position that the Office is under no obligation to compare the art cited in the '580 Reexamination Request to other art previously presented to the Office in

determining whether or not to order or maintain the '808 Reexamination. *See, e.g., FOA* at 17. This position is contrary to the appropriate way in which § 325(d) has been applied by the Office.

As an initial matter, Rembrandt notes that the MPEP presumes that an analysis pursuant to § 325(d) will be performed when deciding whether or not to order a reexamination on a reexamination request. *See, e.g., MPEP* § 2242(I)-(II) ("Issues involving 35 U.S.C. § 325(d) must be referred to the Director of the CRU."). Yet, as illustrated through the *Unilever* case, deemed "informative" by the Board, an analysis under § 325(d) includes a close comparison of the art and arguments presented in the previous and current proceeding. *Unilever v. Proctor & Gamble*, IPR2014-00506, paper 17 at pp. 5-8; paper 25 at 5 ("We considered all of the papers filed **in both proceedings** ...") (emphasis added) (internal quotations omitted); *see also Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, Paper 63 at 11-12. Yet, in the FOA, the CRU takes the exact opposite approach, declining to compare the art previously cited in Samsung's *inter partes* review petitions with that cited in the request to *ex parte* reexamination. FOA at 17 ("[T]here is no provision in MPEP that requires comparing two prior art references and determines if one is cumulative to another ...").

Like OPLA, the CRU further erred in failing to realize that § 325(d) applies to proceedings in which a previous *inter partes* review was not instituted. Specifically, the CRU declined to terminate the '808 Reexamination based on the following reasoning:

Second, in all the previous IPRs, i.e., IPR2014-00518, IPR2014-00519, IPR2014-00514, IPR2014-00515, IPR2015-00114 and IPR2015-00118, PTAB did not institute review of claims 2 and 59 and therefore the teaching presented by Snell and references incorporated by Snell regarding claims 2 and 59 is new and non-cumulative.

FOA at 17 (emphasis added).

This conclusion is in direct conflict with the Office's *Unilever* opinion:

Unilever filed this second petition for inter partes review of the challenged claims of the '569 patent after we denied the first petition. Paper 2 ("second petition"); IPR2013-00505, Paper 4 ("first petition"); Paper 17 (decision denying Unilever's first petition). We denied the second petition because it raised "substantially the same prior art or argument" that Unilever "previously presented" in the first petition.

*Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25 at p. 3 (emphasis added).

Accordingly, the CRU's determination to continue the '808 Reexamination failed to properly apply the correct analysis for § 325(d), perpetuating rather than remedying the errors made in the '580 Petition Dismissal. *See, e.g.*, '580 Petition Dismissal, at 4-6. Therefore, again, reconsideration of the '580 Petition Dismissal is requested so that OPLA can address the CRU's errors and properly consider whether the Director's authority under § 325(d) should be exercised consistent with agency practice as laid out in the *Unilever* and *Ariosa* cases.

## **II. The '808 Reexamination Should be Terminated Pursuant to § 325(d)**

Rembrandt respectfully submits that when the decision to order the '808 Reexamination is reconsidered in light of the correct understanding of § 325(d), the Office should terminate the '808 Reexamination. Specifically, the art and arguments presented in the '808 reexamination are substantially the same and cumulative of those previously presented and found lacking in Samsung's previous petitions for *inter partes* review of the claims of the '508 patent. Second, vacating the order and terminating the '808 Reexamination would conform to the Office's consistent practice in such cases for applying § 325(d). Third, policy considerations support terminating the '808 and '809 reexaminations.

***A. The Art and Arguments Presented in the '808 Reexamination are Substantially the Same as Those Previously Presented to the Office in the '518 Inter Partes Review***

To determine whether the Director should exercise his authority under § 325(d), the Office must consider whether the art and arguments presented for consideration were previously presented to the Office, including art and arguments presented in earlier petitions for *inter partes* review that were ultimately not instituted on the claims being challenged. *See, supra* at section I.B (discussing the *Unilever* and *Ariosa* cases). It is not sufficient to merely conclude that the *same* art was not cited. Rembrandt maintains its position that it does not bear the burden to make that required comparison in this case. Nevertheless, Rembrandt has done so in the interest of assisting the Office and advancing this case. That comparison establishes that substantially the same art or arguments were previously presented to the Office in Samsung's *inter partes* review petitions challenging the '580 Patent.

As will be shown below, the art cited in the '808 reexamination and the previously decided IPRs provides substantially the same teachings because the primary references, Snell (cited in the '808 reexamination) and U.S. Patent No. 5,706,428 ("Boer") (cited in the IPRs) in particular, are directed to substantially the same improvement to the Institute of Electrical and Electronics Engineers ("IEEE") standard for WiFi communication, IEEE 802.11. *See, e.g.*, Snell at 1:47-50, 4:42-46; *see also, e.g.*, Boer at 1:16-19. That is, both Boer and Snell disclose a technique to transmit at higher data rates within the IEEE 802.11 standard using the same types of signal modulation with spread spectrum transceivers. *Compare*, Snell at, 1:22-30 ("It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats.) *with* Boer at Abstract, 1:26-30 ("The 1 and 2 Mbps rates use DBPSK and



DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation. All four data rates use direct sequence spread spectrum (DSSS) coding. ... It is an object of the present invention to provide a method of operating a wireless local area network station which enables communication between stations operating at different data rates."). Furthermore, the comparison shows that the art presented in Samsung's '580 Reexam Request actually discloses *less* than that previously presented and found by the PTAB to be unlikely to be successful in invalidating claims 2 and 59 of the '580 Patent.<sup>8</sup>

### **1. The Art Presented by Samsung in the '580 Reexam Request**

In Samsung's '580 Reexam Request, Samsung alleged that the cited references presented three SNQs with respect to the claims 2 and 59 of the '580 Patent:

- 1) Unpatentability Under 35 U.S.C. § 103 Over Snell, Yamano, and Kamerman (relying on the incorporation by reference of Harris 4064.4 and Harris AN9614) ["SNQ 1"];
- 2) Unpatentability Under 35 U.S.C. § 103 Over Snell, Harris 4064.4, Harris AN9614, Yamano, and Kamerman ["SNQ 2"]; and
- 3) Unpatentability Under 35 U.S.C. § 103 Over Snell in View of Harris 4064.4, the Admitted Prior Art, Upender, Yamano, and Kamerman ["SNQ 3"].

Request for *Ex Parte* Reexamination, U.S. Patent No. 8,023,580 ("'580 Reexam Request"), at iv.<sup>9</sup>

As explained below, Samsung presented the art in each SNQ in substantially the same way it previously presented the alleged Admitted Prior Art ("APA") and Boer in Samsung's IPR

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<sup>8</sup> For the Office's easy reference, claims 2 and 59, including the claims on which they depend, are reproduced in the attached Exhibit 1.

<sup>9</sup> Samsung presented the same art to support the same SNQs in its challenge to U.S. Patent No. 8,457, 228 (continuation of the '580 Patent). Request for *Ex Parte* Reexamination, U.S. Patent No. 8,457, 228 ("'228 Reexam Request"), at iv.

Petitions challenging the '580 Patent. While Snell, Yamano, Kamerman, Harris 4064.4, and Harris AN9614 were not previously cited in any of the '580 or '228 IPRs, their allegedly relevant disclosures are at most cumulative of the APA and Boer, as is demonstrated through a comparison of Samsung's arguments based on these allegedly "new" references with those made based on the APA and Boer in at least the '518 and '114 IPR Petitions.

With respect to SNQ 1, Rembrandt has made an exhaustive comparison of Samsung's claim charts presented in its '580 Reexam Request to support its alleged SNQ 1 for claims 2 and 59 of the '580 Patent (pp. 44-62) with Samsung's claim charts presented to support its '114 IPR Petition for claims 2 and 59 of the '580 Patent (pp. 25-32 (claims 1 and 2) and pp. 43-49 (claims 58 and 59)).<sup>10</sup> That comparison is included in Exhibit 3 and shows that Samsung's present arguments were previously presented to the Office and are based on substantially the same art.

SNQ 2 relies on the same art as SNQ 1, and thus the comparisons with respect to SNQ 1 apply equally to SNQ 2. SNQ 3 additionally relies on the APA and Upender – art that was previously presented to and considered by the Office. Thus, it will not be discussed further.

## **2. Samsung's Arguments Presented to Support its Alleged SNQs Compared to those it Previously Presented in its '518 and '114 IPR Petitions**

In its '580 Reexam Request, Samsung relied on Snell as its primary reference to support all of its proposed SNQs. Snell is at best cumulative of Boer, which Samsung previously and repeatedly presented to the PTAB in numerous IPR Petitions. *See* Samsung's Petitions in IPR2014-00518, -00519; IPR2015-00114, -00118 (summarized in Exhibit 2).<sup>11</sup> Both references

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<sup>10</sup> Substantially the same comparisons were made in the '518 IPR Petition. *See* pp. 28-33 (claims 1 and 2), 52-57 (claims 58 and 59).

<sup>11</sup> Similarly, in its challenges to the '228 Patent, Samsung previously presented Boer in its petitions in IPR2014-00889, -00890, -00891, -00892, -00893, -00895; IPR2015-00555.

propose similar extensions to the IEEE 802.11 standard<sup>12</sup> (or WiFi),<sup>13</sup> namely adding two higher data rates to the 1MB/s and 2MB/s data rates in the standard. Both references use the WiFi packet structure defined by the standard (shown Fig. 4 in Boer and Fig. 3 in Snell), including packet headers with the same fields, and Samsung relies heavily on these common aspects as a basis for presenting an SNQ in each case.

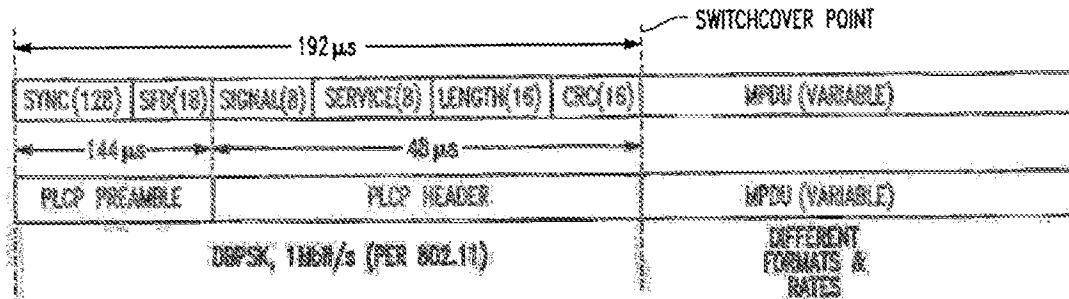
In its '580 Reexam Request, Samsung relied on Snell's Fig. 3 *45 times* in its attempt to establish the existence of SNQs.<sup>14</sup> In fact, Snell's Fig. 3 is *substantially identical* to Fig. 4 in Boer – a figure fully considered by the PTAB in numerous IPRs and found unlikely to render unpatentable claims 2 and 59 of the '580 Patent. *See* the PTAB Institution Decision in IPR2014-00518, at 13-15 (quoted *supra* at 9). Snell's Fig. 3 (as it appears in Snell without Samsung's commentary) is compared below with Boer's Fig. 4 (annotated in italics to identify the numbers in Fig. 4 and the Boer teachings coinciding to those shown in Snell's Fig. 3):

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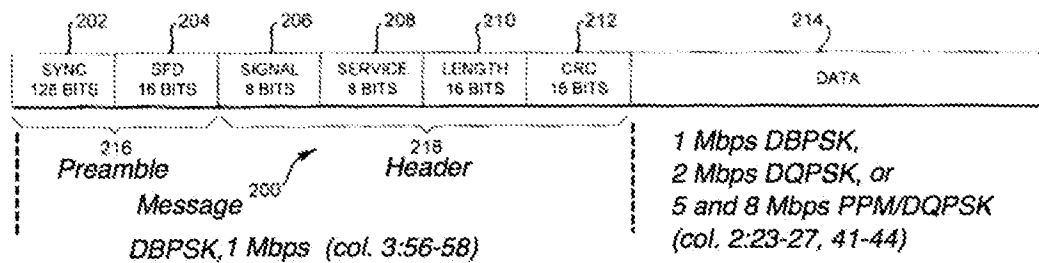
<sup>12</sup> *See* Snell, col. 4, lines 43-46 ("The transceiver 30 may be readily used ... in accordance with the *proposed IEEE 802.11 standard*" (emphasis added)); Boer, col. 1, lines 17-20 ("... there is being produced *IEEE standard 802.11, currently in draft form*, which specifies appropriate standards for use in wireless LANs" (emphasis added)). Both Boer and Snell were members of the committee responsible for drafting the standard, and both had access to the packet structure before the standard was approved and published.

<sup>13</sup> Starting in 2000, the WiFi Alliance initiated programs to certify devices as operating in accordance with the standard. Certified devices are permitted to use the "WiFi" trademark. As a result, "WiFi" and IEEE 802.11 are often used interchangeably.

<sup>14</sup> Similarly, in its '228 Reexam Request, Samsung relied on Snell's Fig. 3 *40 times*.



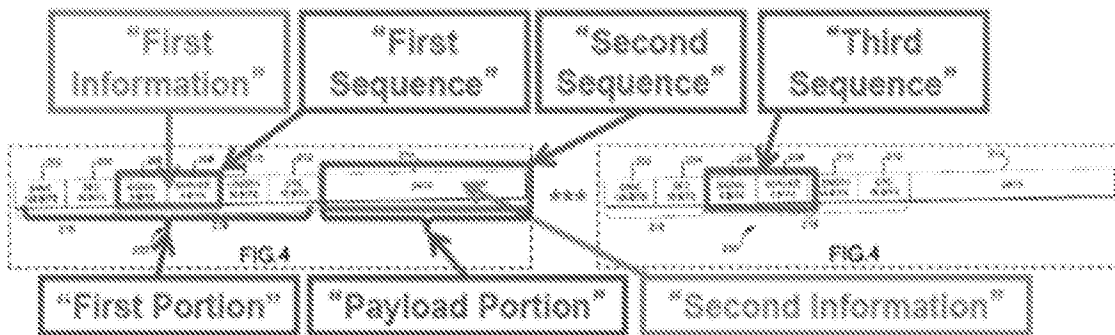
(Snell) FIG. 3



(Boer) FIG. 4

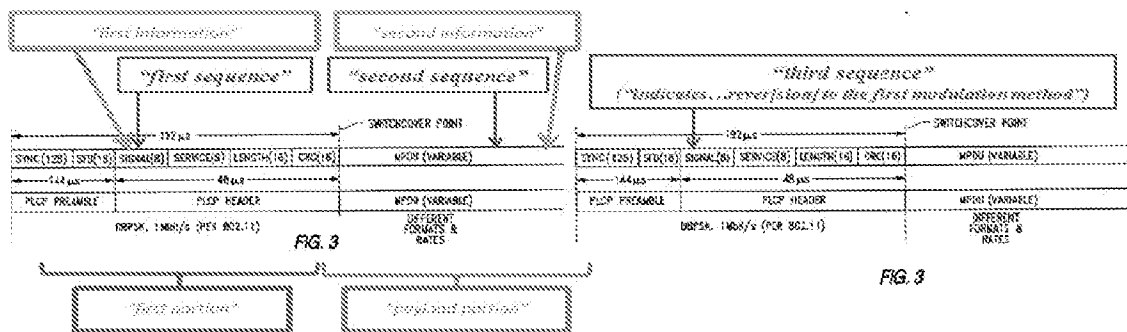
With respect to the additional "third sequence" limitation found in claims 2 and 59 of the '580 Patent, Samsung is making the same argument against patentability (albeit based on Snell instead of Boer) that it advanced unsuccessfully in the prior IPRs. As shown below, in both cases, Samsung argued that the SIGNAL/SERVICE fields of a "subsequent" transmission taught the additional limitations of claims 2 and 59. With respect to the Samsung's modified Figure 3 from the Request (below), Rembrandt has changed the color coding to match that used by Samsung in one of its previous IPR Petitions in which Samsung modified Boer's Figure 4, and removed extraneous labelling that obscured the sameness of Samsung's position in both proceedings.

Petition in IPR2014-00518 (argument based on Boer)



'518 IPR Petition, at 25. See also '114 IPR Petition, at 25.

Reexamination Request (same argument based on Snell)



'580 Reexam Request at 58, 84 and 116.

Tellingly, in its '580 Reexam Request, Samsung does not identify a single disclosure from Snell more relevant to the patentability of claims 2 and 59 than that which the Office previously considered in Boer.<sup>15</sup> In fact, Snell is even less relevant than the references earlier cited by Samsung and considered by the Office,<sup>16</sup> which explains why Samsung did not cite

<sup>15</sup> Compare, e.g., '580 Request, at 27-29 with, e.g., '114 IPR Petition, at 16-21.

<sup>16</sup> Boer is more relevant than Snell in that Boer additionally discloses a destination address and a modulation method that was relied on heavily by the PTAB, i.e., PPM/DQPSK. See '518 IPR Institution Decision, at 11-12; '518 IPR Final Decision, at 18-21.

Snell during the multitude of IPRs Samsung earlier filed against Rembrandt's '580 and '228 Patents.

**Samsung's Arguments: Snell Compared to Boer**

Samsung's arguments in its '580 Reexam Request based on Snell are the same or substantially the same arguments previously presented in its '518 and '114 IPR Petitions based on Boer. Notably, Samsung's heavy reliance on Snell's **Figure 3** and on Boer's **Figure 4** exposes their striking similarity and lack of any significant differences.<sup>17</sup> Snell's references to these two figures have been bolded to emphasize this point.

In its "Overview of Snell," Samsung begins:

Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at 1:34-46; see *id.* at 1:47-50, 4:42-47, 5:18-21. Snell's transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a "first modulation method" (*e.g.*, BPSK) and a "second modulation method" (*e.g.*, QPSK) that is "of a different type than the first modulation method." *Id.* at 2:61-63 ..., 1:55-57 ..., 2:27-30 ... , 7:10-14 ..., 1:58-61 ... , 2: 15-17 .... See *id.* at Abstract, 1:55-61, 2:56-59, Fig. 2, **Fig. 3**, Fig. 5.

'580 Reexam Request, at 23-24.<sup>18</sup>

In its '518 IPR Petition, Samsung previously presented substantially the same arguments with respect to Boer:

Boer discloses the use of transceivers. See *e.g.* Ex. 1204, 2:6-22 ("Referring first to FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented... The access point 12 has antennas 16 and 17 for **transmitting and receiving messages** over a wireless communication channel... The mobile stations 18 are capable of

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<sup>17</sup> In Exhibit 3, Rembrandt has placed side by side Samsung's claim chart comparison in its '580 Reexam Request and that in its '114 IPR Petition Request.

<sup>18</sup> The parentheticals and footnotes have been omitted. Emphases (except that of Figs. 3 and 4) are Samsung's.

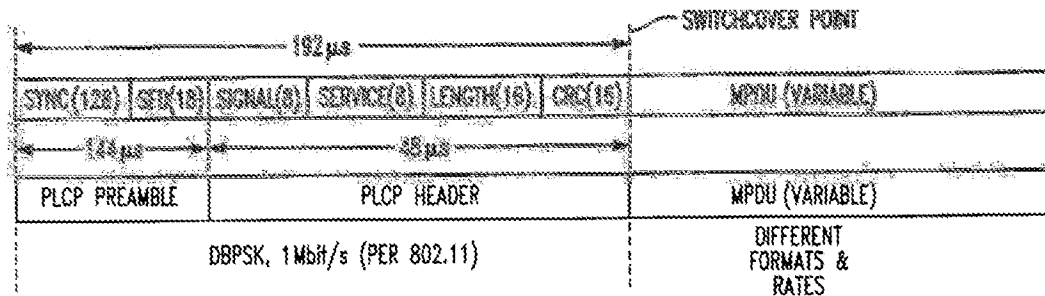
**transmitting and receiving messages** selectively at a data rate of 1 Mbps (Megabit per second) or 2 Mbps, using DSSS (direct sequence spread spectrum) coding."). A person of skill in the art would have recognized that an access point could act as a master in a basic service set of a wireless LAN. Ex. 1220, ¶95, 114. *See also* Ex. 1204, 2:34-37 ....

.... Boer plainly discloses transmissions using "at least two types of modulation methods," since it teaches sending transmissions using DBPSK, DQPSK and PPM/DQPSK. Abstract ("A wireless LAN includes first stations adapted to operate at a 1 or a 2 Mbps data rate and second stations adapted to operate at a 1,2,5 or 8 Mbps data rate. The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation."). Ex. 1220, ¶116-118.

'518 IPR Petition, at 19-20.

In its '580 Request, Samsung continues:

Snell discloses that each data packet transmission comprises a "group of transmission sequences" structured with a "first portion" (*e.g.*, a PLCP preamble and PLCP header) and a "payload portion" (*e.g.*, MPDU data). *Id* at 6:35-36, 6:64-66, 7:5-14, **Fig. 3**. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. *Id* at **Fig. 3**, 6:48-7:14. The MPDU data is the data to be transmitted to the receiving transceiver. *Id* at 7:5-6 ...; *see also id* at 7:6-14, **Fig. 3**.



(Snell) **FIG. 3**

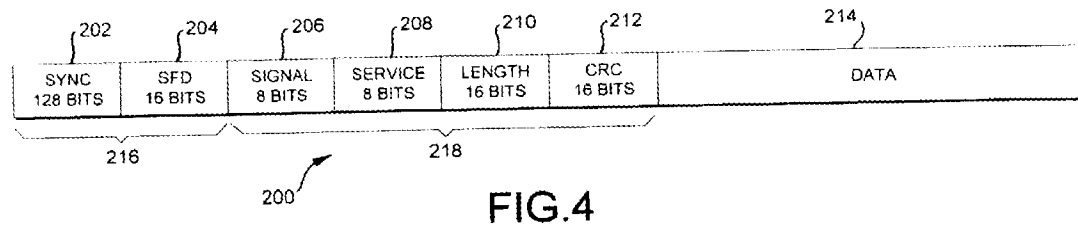
*Id* at **Fig. 3**.

'580 Reexam Request, at 24-25.

Again, Samsung made substantially the same arguments in its '518 Petition:

... Boer discloses a message 200, shown in **Figure 4**, that "include[s] an initial portion and a data portion." *See e.g.* Ex. 1204, 1:33-37 ("Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion . . ."). The "initial portion" is the claimed "first portion," while the "data portion" is the claimed "payload portion." Ex. 1220, ¶127-128.

... Boer discloses a communication device where "first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion." An embodiment of message 200 is shown in **Figure 4** [below].



Messages 200 comprise several fields, including a Header 218 comprised, *inter alia*, of SIGNAL field 206, SERVICE field 208, and LENGTH field 210. *Id.* at 3:42-49. After Header 218, message 200 contains DATA field 214, which also contains the address of the intended recipient. *Id.* at 6:28-31. Ex. 1220, ¶129-130.

'518 IPR Petition, at 21-22.

Samsung argues in its '580 Request:

Snell teaches that the PLCP preamble and PLCP header are always modulated using the "first modulation method" (*e.g.*, BPSK). Snell at 6:35-36 ("The header may always be BPSK"), **Fig. 3**. Snell further discloses that "first information in the first portion" (*e.g.*, the SIGNAL field in the PLCP header) "indicates" which of the "first modulation method" (*e.g.*, BPSK) and "second modulation method" (*e.g.*, QPSK) is used for modulating "second information" in the "payload portion" (*e.g.*, MPDU data).

'580 Request, at 25.

Again, substantially the same argument was made with respect to Boer in Samsung's '518

IPR Petition:

Boer also discloses claim 1's requirement that the "first information" (*i.e.*, the identification of the modulation method) comprise a "first sequence" that is



modulated using the "first modulation method." Boer teaches that Header 218, which includes the SIGNAL 206 and SERVICE 208 fields, is modulated using DBPSK, which is the "first modulation method." Ex. 1204, 3:56-58 ("With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and **header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation.**") (emphasis added [by Samsung]). SIGNAL 206 and SERVICE 208 fields comprise the "first sequence." Given that data within the SIGNAL 206 and SERVICE 208 fields indicate what type of modulation the DATA field 214 will be transmitted with, they meet claim 1's requirement that the "the first sequence indicate[] an impending change from the first modulation method to the second modulation method." Ex. 1220, ¶136-137.

'518 IPR Petition, at 23-24.

In its '580 Request, Samsung continued:

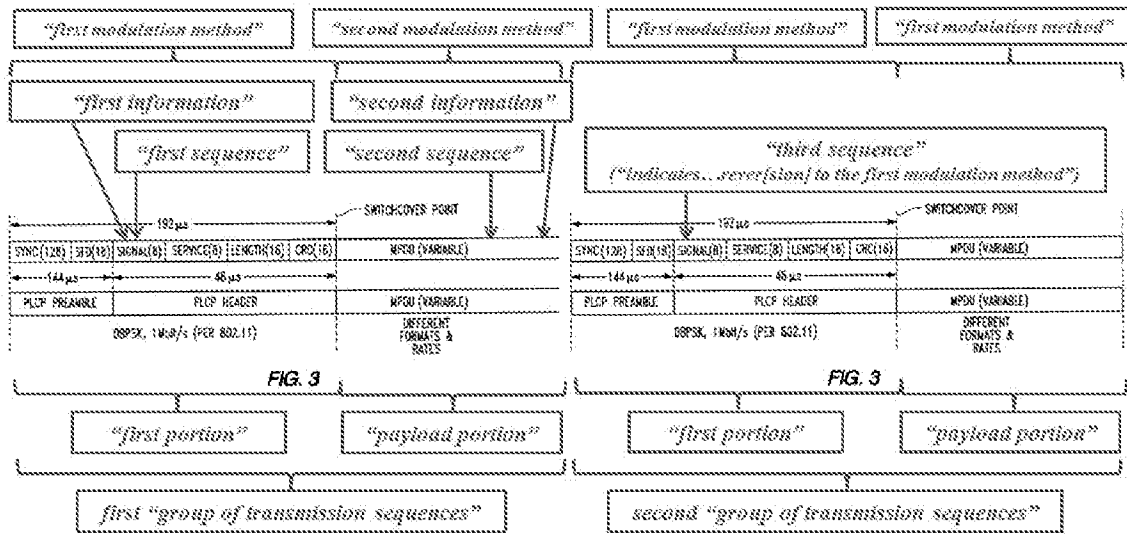
...Snell discloses "[n]ow relating to the *PLCP header 91*, the *SIGNAL* is:

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0Ah	1Mbits/s BPSK
14h	2Mbits/s QPSK
37h	5.5 Mbits/s BPSK, and
6Eh	11Mbits/s QPSK.

---

Snell at 6:52-59. Thus, Snell teaches that the SIGNAL field in the PLCP header includes the symbol "0Ah" to indicate when the MPDU data is modulated using the "first modulation method" (*e.g.*, BPSK at 1 Mbit/s). *Id* at 6:52-59, 7:1-2, 7:5-14, **Fig. 3**. Snell also teaches that the SIGNAL field in the PLCP header includes the symbol "14h" to indicate when the MPDU data is modulated using the "second modulation method" (*e.g.*, QPSK at 2 Mbit/s). *Id*. Snell thus teaches that "[t]he variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in **FIG. 3**, occurs on-the-fly." *Id* at 7: 10-14; *see also, e.g., id* at **Fig. 3**, 2:27-30.



Id at Fig. 3 (annotated).

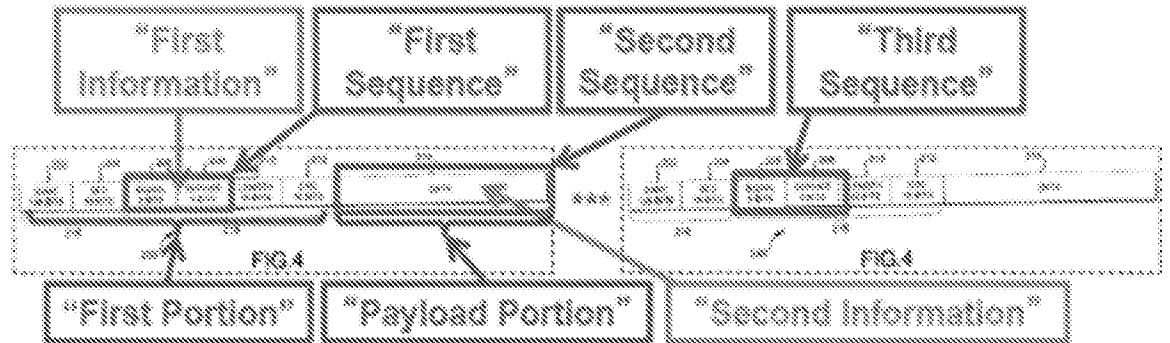
'580 Reexam Request, at 25-26.

Similarly, Samsung previously argued in its '518 IPR Petition:

... Boer teaches that the "second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method," since the data (the "second information") within DATA field 214 (the "second sequence") will be modulated using the second type of modulation method (DQPSK or PPM/DQPSK) when the SIGNAL 206 and SERVICE 208 fields so indicate. Ex. 1204, 1:33-47, 3:56-62, 4:4-11 & 6:5-21. Finally, as plainly seen in **Figure 4** in Boer, DATA field 214 (i.e., the recited "second sequence") is transmitted after SIGNAL field 206 and SERVICE field 208 (the recited "first sequence"). *See also id.*, 3:56-62 ("With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The **subsequent DATA field 214**, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.") (Emphasis added [by Samsung]). Ex. 1220, ¶138-140. Thus, claim 1 is rendered obvious by the combination of the APA and Boer.

Dependent claim 2 requires that the transceiver "transmit a third sequence after the second sequence." This limitation is in both the APA and Boer. In the APA, transmission of multiple sequences is shown in Figure 2, with an exemplar "third sequence" being training sequence 48. *See also* Ex. 1201, 4:4-50. Boer teaches this as well. Ex. 1204, 1:33-40 ("Therefore, according to the present invention, there is provided a method of operating a wireless local area network

station adapted to transmit and receive messages at a plurality of data rates, wherein said **messages** include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates..."). A subsequent transmission of SIGNAL 206 and SERVICE 208 fields would be the "third sequence." The annotated figure [Fig. 4 below]



illustrates the arrangement of "information," "portions," and "sequences" according to claim 1. Ex. 1220, ¶141-142.

Claim 2 further requires that the third sequence be "transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method." As discussed, Header 218, which includes SIGNAL 206 and SERVICE 208 fields, always transmitted using DBPSK (the "first modulation method"). Ex. 1204, 3:56-58. Ex. 1220, ¶143. Thus, claim 2 is obvious in view of the prior art.

'518 IPR Petition, at 24-25.

Samsung continued along the same line of arguments in its '580 Reexam Request:

Snell teaches communicating multiple data packets with the ability to "switch on-the-fly between different data rates and/or formats." *Id* at 2:29-30. Based on this disclosure, a person of ordinary skill in the art would have understood that Snell teaches that a series of packets may be sent that switch from using a second modulation method to using a first modulation method for the payload portion of the data packet, as shown in the annotated **Figure 3** above. [See *supra*, at 28] For example, Snell's transceiver transmits a first group of transmission sequences comprising a "first sequence" (*e.g.*, PLCP preamble and PLCP header) that is "modulated according to the first modulation method" (*e.g.*, BPSK) where the "first sequence" (*e.g.*, "SIGNAL" field in PLCP header) "indicates" (*e.g.*, using "14h") the modulation type (*e.g.*, QPSK) used for modulating the "second sequence" (*e.g.*, MPDU data). For the first packet, the "SIGNAL" field in the PLCP header uses a code (*e.g.*, "14h") that "indicates"

when the MPDU data is modulated "according to the second modulation method" (e.g., QPSK). The "second modulation method" (e.g., QPSK) "is of a different type than the first modulation method" (e.g., BPSK).

Snell's transceiver then transmits a second packet comprising a "third sequence" (e.g., PLCP preamble and PLCP header) "transmitted in the first modulation method" (e.g., BPSK) where the "third sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "OAh") the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet. Dependent claims 2 and 59 require "transmit[ing] a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method." ... For the second packet, the "SIGNAL" field in the PLCP header uses a code (e.g., "OAh") that "indicates" when the MPDU data is modulated using the BPSK modulation method at 1 Mbit/s. This "SIGNAL" thus "indicates that communication" from the transceiver "has reverted to the first modulation method" (e.g., reverted to BPSK modulation). In addition, transmitting the data using the "first modulation method" (e.g., BPSK) results in a data rate of 1 Mbit/s which is lower than transmitting the data using the "second modulation method," which results in a data rate of 2 Mbit/s.

'580 Reexam Request, at 26-27.

While these latter Samsung arguments are substantially repetitive of those quoted above and thus also addressed by the arguments made in the '518 IPR Petition quoted above, Samsung also made substantially the same arguments in its '114 IPR Petition:

...Petitioner respectfully submits that a person having ordinary skill in the art would have understood that Boer teaches that the SIGNAL 206 and SERVICE 208 fields in Boer can indicate that communication has reverted to the first modulation method. Ex. 1221, ¶13. First, Boer indisputably teaches transmission of multiple messages 200. Ex. 1204, 1:33-40 ("Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to **transmit** and receive **messages** at a plurality of data rates, wherein said **messages** include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates..."). Indeed, a person having ordinary skill in the art would have known that a communication system utilizing data packets such as message 200 transmits multiple sequential packets. Ex. 1221, ¶14-15. Thus, a person having ordinary skill in the art would understand that the SIGNAL 206 and SERVICE 208 fields of a second message 200 is the (i) "third sequence" of claims 2 & 59, and (ii) "second sequence" of claim 49. Ex. 1221, ¶15.

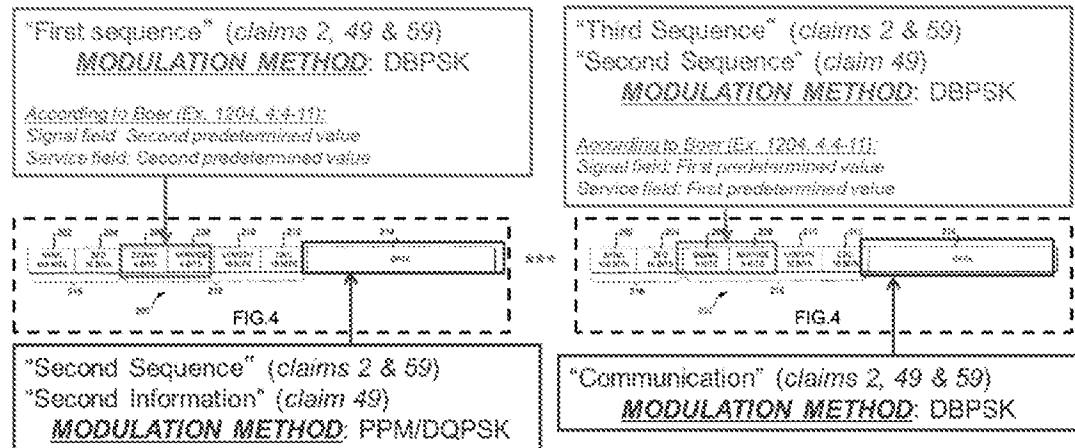
Boer also teaches each claim's requirement that the recited "third sequence" and "second sequence" indicate that communication "has reverted to the first modulation method." First, Petitioner respectfully submits that a person having ordinary skill in the art would have known that in Boer, a first message 200 where the DATA field 214 is transmitted using PPM/DQPSK ("second modulation method") could be followed by a second message 200. Ex. 1221, ¶17. This second message 200, by virtue of being transmitted after a first message 200, meets the requirement that the "third sequence" and "second sequence" be transmitted "after" the previous sequences recited by each claim. Ex. 1221, ¶18.

Second, this ordinarily skilled person would have known that the DATA 214 field in second message 200 could be transmitted using DBPSK ("first modulation method"). Ex. 1221, ¶19. Indeed, Boer explicitly teaches that DATA field 214 can be modulated using any of the modulation methods described therein. *See e.g.*, Ex. 1204, 3:56-62 ("With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. **The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.**"). Ex. 1221, ¶19.

Boer teaches that values contained in the SIGNAL field 206 and SERVICE field 208 indicate which modulation method will be used to transmit DATA field 214. Ex. 1204, 4:4-11 ("The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate."). Ex. 1221, ¶20.

Thus, when transmitting the **first** message 200 in the sequence, DATA field 214 will be modulated in PPM/DQPSK ("second modulation method") as indicated by SIGNAL field 206 containing a second predetermined value while SERVICE field 208 contains a second (or third) predetermined value. *See* Ex. 1204, 4:4-11. Ex. 1221, ¶21. When transmitting the **second** message, the DATA field 214 reverts to DBPSK ("first modulation method") as indicated by SIGNAL field 206 containing a first predetermined value while the SERVICE field 208 contains a first predetermined value, which Boer states is "typically all zero bits." *See* Ex. 1204, 4:4-11. Ex. 1221, ¶22. By placing the first predetermined value in SIGNAL field 206 and the first predetermined value in SERVICE field 208, these two fields indicate that transmission of the DATA field 214 "has reverted to the first modulation method," as required by claims 2, 49, 52-53 and 59. *See* Ex. 1221, ¶23.

The following figure [FIG. 4] shows the location in two messages 200 in Boer of terms in claims 2, 49, and 59. It also shows how Boer uses the claimed modulation methods:



Ex. 1221, ¶24.

Because Boer teaches that DATA field 214 can be transmitted with either DBPSK, DQPSK, or PPM/DQPSK, a person having ordinary skill in the art would have known, and found it obvious, that a transmitted message 200 in which DATA field 214 was transmitted using PPM/DQPSK could be followed by a message 200 where the DATA field 214 is transmitted using DBPSK. Ex. 1221, ¶25. Indeed, Boer specifies that such a reversion would occur if ACK messages are not received correctly. Ex. 1204, Fig 7 (block 522) and 7:41-51 ("Returning to block 508, if an ACK message is not received correctly and within the predetermined time interval, then the flowchart proceeds to block 522 where the SC count value is reset to zero and the data rate is decremented (if the minimum data rate is not already being used)...."). See the annotated Fig. 7 (Ex. 1204):

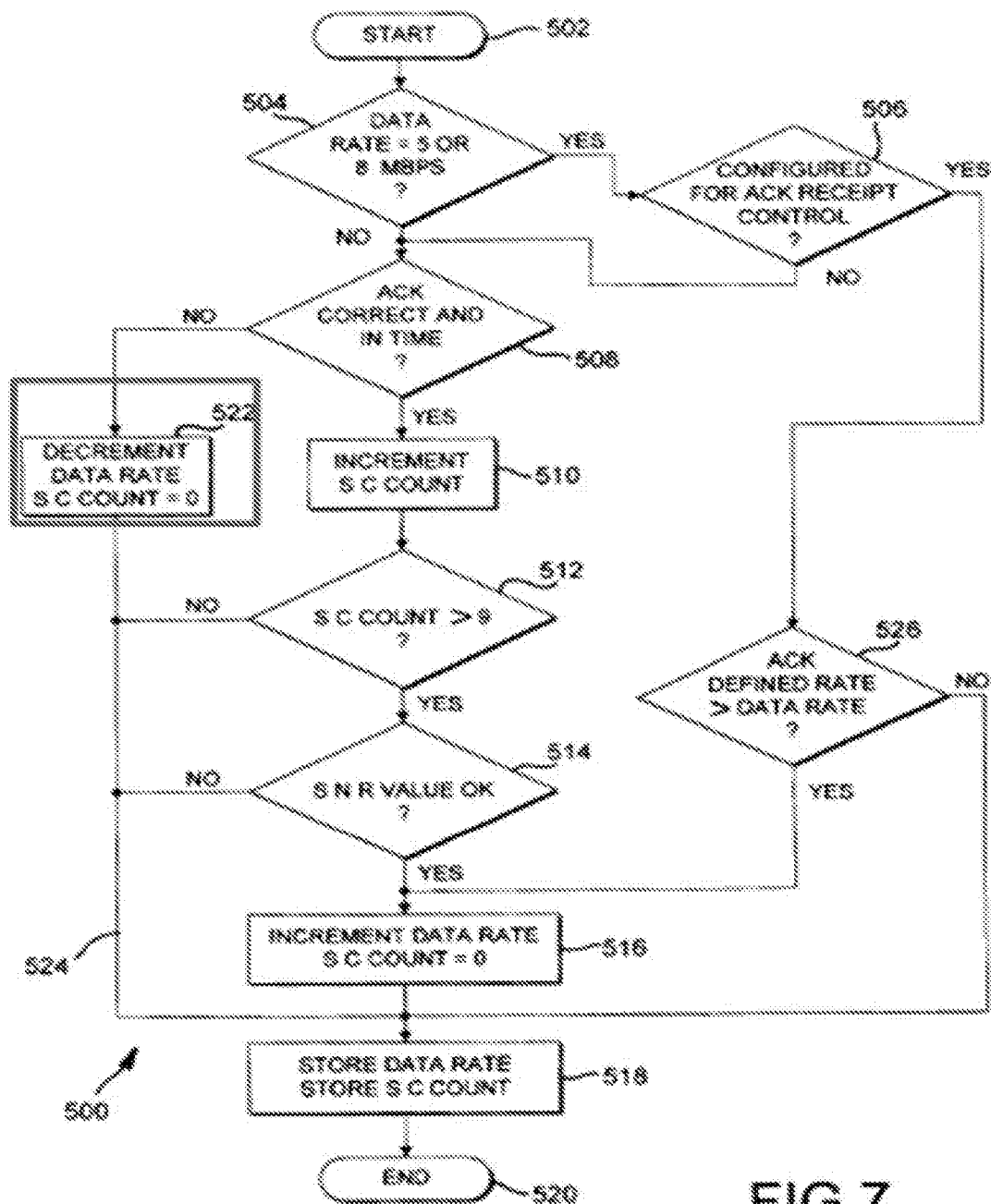


FIG. 7

See also *Id.* at 8:6-9 and Ex. 1221, ¶25. A person of ordinary skill in the art would have understood that ACK messages may not be received correctly when channel conditions change for the worse, such as when the transceivers are

moved apart from one another or when interference increases. Ex. 1221, ¶26. Boer discloses that under such conditions, "the data rate is decremented." Based on the flow chart in Fig. 7 of Boer, reprinted above, it is seen that if enough ACK messages are not received correctly, the data rate may be decremented until the data rate reaches 1 Mbps, which is transmitted using DBPSK. Ex. 1221, ¶26. Whenever this happens, the SIGNAL and SERVICE fields indicate that communication "has reverted to the first modulation method," thereby meeting the "reverted" limitation required by claims 2, 49, 52-53 and 59. Ex. 1221, ¶27.

Moreover, a person having ordinary skill in the art would have known, and found it obvious, that following routine events such as an increase in interference in the communications channel, the SIGNAL field 206 and SERVICE field 208 would have contained values indicating that communication "has reverted to the first modulation method," as required by claims 2, 49, 52-53 and 59. Ex. 1221, ¶28.

'114 IPR Petition, at 15-21.

#### **Samsung's Arguments: Harris 4064.4 Compared to Boer**

In its "Overview of Harris 4064.4," Samsung argued that Harris 4064.4 discloses DBPSK and DQPSK. '580 Reexam Request, at 29-31. So does Boer, as Samsung repeatedly argued in its '518 IPR Petition, for example, at 19-20 ("Boer plainly discloses transmissions using 'at least two types of modulation methods,' since it teaches sending transmissions using DBPSK, DQPSK and PPM/DQPSK.").

More specifically, in its '580 Reexam Request, Samsung relied on Harris 4064.4 for its disclosure of a preamble and header that are always transmitted as *DBPSK* waveforms, a data portion transmitted as either DBPSK or DQPSK, and a SIGNAL field that indicates whether the data portion is modulated as DBPSK or DQPSK. '580 Request at 48-49, 52, 56-57, 63-64, 74-75, 77-79, 82-83, 89-90, 106, 109-110 (citing Harris 4064.4 at Fig. 10, 14-16).

Samsung's arguments based on Harris 4064.4 add nothing of relevance when compared to those previously made based on Boer, which discloses a preamble 216 and header 218 that always are sent using DBPSK and a data field 214 transmitted in DBPSK, DQPSK, or



PPM/QPSK, and SIGNAL and SERVICE fields that indicate whether the data field 214 is modulated in DBPSK, DQPSK, or PPM/QPSK. *See, e.g.*, IPR2014-00518 Petition at 20, 22-24 (citing Boer at Fig. 4, Abstract, 3:42-49, 3:56-62, 4:4-11, 6:5-21). The DBPSK and DQPSK of Boer were relied upon as allegedly corresponding to the claimed "first modulation method" and "second modulation method," respectively, and the SIGNAL and SERVICE fields of Boer were relied on as allegedly corresponding to the claimed "first sequence." *See, e.g.*, IPR2014-00518 Petition at 20, 22-24; IPR2014-00892 Petition at 20, 22-24.

Samsung's other arguments based on Harris 4064.4 are substantially the same arguments made with respect to Snell. *See* '580 Reexam Request, at 29-31. And, in turn, those arguments made with respect to Snell were made in Samsung's '518 and '114 IPR Petitions (quoted above).

**Samsung's Arguments: Harris AN9614 Compared to the APA and Boer**

In its "Overview of Harris AN9614," Samsung argued in its '580 Reexam Request that Harris AN9614 discloses that Snell can be configured to operate in a polled (master/slave) protocol such that "power consumption can be beneficially ... reduced by more than an order of magnitude." '580 Reexam Request, at 32. To the extent Rembrandt agrees that the "polling scheme" in Harris AN9614 can be equated to a master/slave protocol (which it vigorously contests), this reference adds nothing to what Samsung previously argued "plainly disclosed" a "master/slave relationship." '518 IPR Petition, at 19. With respect to Samsung's "power consumption" argument, Samsung previously argued along the same lines that "simplicity and determinacy are motivations to combine Boer with the master/slave communication system" of the APA. '518 IPR Petition, at 14.

In fact, the Examiner has determined *in this proceeding* that the teachings of Boer in combination with those of the APA are the same as the teachings of Snell in combination with

Harris AN9614. While addressing features recited in claims 1 and 58, the Examiner argues that her arguments presented based on Snell and Harris AN9614 must be valid and maintained because the teachings of these references are the same as those of Boer in view of APA, grounds relied upon by the Board in rejecting claims 1 and 58 in the '518 IPR:

Harris AN9614 is used to show that the transceiver of Snell can be used in a master/slave relationship. Further, claims 1 and 58 recite using multiple modulations and it is determined by PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation of claims 1 and 58.

FOA at 40. It is not just Rembrandt who believes that this art and the arguments based upon it are the same, the Examiner believes it and relies on this equivalency in an attempt to strengthen her position.

**Samsung's Arguments: Yamano Compared to Boer**

In its "Overview of Yamano" in its '580 Reexam Request, Samsung argued that Yamano discloses the claimed destination address:

Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address for an intended destination of the payload portion. Yamano at 19:63-64 ("Packet 700 includes a preamble 701 and a main body 702."); Yamano at 20:1-7 ("For example, preamble 701 can include information which identifies: . . . (2) packet source and destination addresses.").

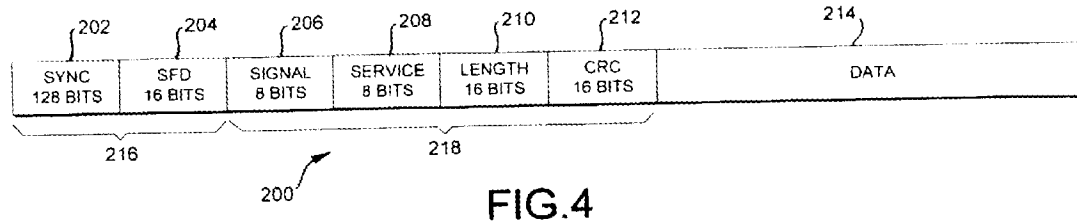
'580 Reexam Request, at 36.<sup>19</sup>

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<sup>19</sup> While Samsung also argues that Yamano discloses the destination address in the preamble, '580 Reexam Request, at 36-37, that fact is not relevant to the patentability of claims 2 and 59 which are not limited to having the destination address in the preamble. *See* claim 1 ("wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion") and claim 58 ("wherein the at least one message is addressed for an intended destination of the second sequence").

In its '518 IPR Petition, Samsung argued that Boer disclosed the claimed destination address:

An embodiment of message 200 is shown in Figure 4 [below].



Messages 200 comprise several fields, including a Header 218 comprised, *inter alia*, of SIGNAL field 206, SERVICE field 208, and LENGTH field 210. *Id.* at 3:42-49. After Header 218, message 200 contains DATA field 214, which also contains the address of the intended recipient. *Id.* at 6:28-31. Ex. 1220, ¶129-130.

'518 IPR Petition, at 22. Thus, Samsung previously presented substantially the same arguments based on Boer as it now bases on Yamano.

### **Samsung's Arguments: Kamerman Compared to Boer**

In its '580 Reexam Request, Samsung fails to even acknowledge that *Kamerman was Boer's co-inventor*.<sup>20</sup> Significantly, the rate control algorithm in Kamerman's presentation (the only aspect of that reference relied on in the '580 Reexam Request) was described in detail in the Boer patent which was previously presented and fully considered in numerous IPRs. *See* the summary of IPRs in Exhibit 2. Samsung alleged that "Kamerman has not been previously cited to or considered by the Office." '580 Reexam Request at 37. This statement is misleading because it does not disclose Kamerman's close relationship to the Boer patent and the substantial identity of the two disclosures. In fact, Kamerman's automatic rate control algorithm is nothing

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<sup>20</sup> The Kamerman paper is dated August, 1996, a few months after he, Boer and others filed the Boer patent. It appears Kamerman was permitted to talk about the invention disclosed in the Boer patent once the application was filed. Such a procedure is typical with companies, particularly large companies like Lucent Technologies (assignee of the Boer patent and Kamerman's employer).

more than a less detailed version of the automatic rate control algorithm repeatedly relied on by Samsung in Boer patent.

In its "Overview of Kamerman" in its '580 Reexam Request, Samsung argued:

Kamerman, like Snell, relates to DSSS transceivers designed according to the then-draft IEEE 802.11 standard, and discloses an automatic rate selection scheme for transmitting a first data packet where the data is modulated using a second modulation method (*e.g.*, QPSK at 2 mbps) and next transmitting a second data packet where the data is modulated using a first modulation method (*e.g.*, BPSK at 1 mbps) to adjust the data transfer rate based on channel conditions. *Id* at 11 ("IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. ... An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: *after unacknowledged packet transmissions the rate falls back*, and after a number (*e.g.* 10) of successive correctly acknowledged packet transmissions the bit rate goes up."). Kamerman discloses that the data transfer rates can fall forward (*i.e.*, increase) with reliable connections and fall back (*i.e.*, revert) when there is strong cochannel interference. *Id* at 12 ("The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and/all *back at strong cochannel interference.*").

Kamerman discloses adjusting the data transfer rates by switching between modulation types, including between a second modulation method, such as QPSK (which corresponds to a higher data transfer rate) and a first modulation method of a different type, such as BPSK (which corresponds to a lower data transfer rate). *Id* at 11. Kamerman teaches that the automatic rate selection scheme can maximize the data transfer rate by transmitting the data using the second modulation method (which corresponds to the higher data transfer rate) when there is a reliable connection and reverting to transmitting the data using the first modulation method (which corresponds to a lower data transfer rate) during higher load conditions when a more robust signal is needed due to "mutilation of transmissions by interference."

At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit

rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell.

*Id* at 11.

Accordingly, Kamerman discloses an automatic rate selection scheme for transmitting a first data packet where the data is modulated using a second modulation method (*e.g.*, QPSK at 2 mbps) when there is a reliable connection to maximize the data transfer rate, and, after unacknowledged packet transmissions (for instance, when there is a high load in neighbor cells causing cochannel interference which requires a more robust signal) next transmitting a second data packet where the data is modulated using a first modulation method (*e.g.*, BPSK at 1 mbps) (*i.e.*, "falling back" or "reverting"). This automatic rate selection scheme is advantageous because it maximizes the data transfer rate when possible while preserving reliability during periods of strong cochannel interference.

'580 Reexam Request, at 38-39.

In the '518 and '114 IPR Petitions, Samsung previously made substantially the same arguments based on Boer. *See, e.g.*, the '114 IPR Petition, at 15-21 (quoted above).

**3. The Substantial Identity of Samsung's Arguments in its '580 Reexam Request to Those it Previously Presented to the PTAB Warrant Application of 35 U.S.C. § 325(d)**

As illustrated above, the combinations of art presented by Samsung to support its '580 Reexam Request are at best cumulative of Samsung's previously presented combinations of art to support its '518 and '114 IPR Petitions. In the IPR Petitions, Samsung alleged that Boer disclosed all the limitations of claims 2 and 59 except the claimed master/slave relationship. Samsung relied on the APA to show the master/slave relationship. And Samsung relied on Upender to argue that there was motivation to combine the APA and Boer. In its '580 Reexam Request, to support its proposed SNQs 1 and 2, Samsung merely has presented Snell, Yamano, and Kamerman (or Snell, Yamano, Kamerman, and Harris 4064.4) to substitute for the Boer teachings and has presented Harris AN9614 to replace the APA. Perhaps recognizing that its

combination of *five* references may still not provide any teaching or suggestion of a master/slave relationship (which they do not), to support its proposed SNQ 3, Samsung substitutes Harris AN9614 with the APA and Upender, i.e., references previously presented to the Office. By using substitute references for those previously presented, Samsung is able to argue the art has not been previously cited or considered. But Samsung's position misses the mark with respect to the application of § 325(d) – the relevant question is whether the art *or* arguments are substantially the same as those previously presented. In fact, Samsung's "new" art, considered alone or in combination, adds nothing to the art it previously presented to the Office in two or more IPR petitions and thus is substantially the same. Samsung's harassment of Rembrandt through the use of substitute art is exactly the type of harassment that § 325(d) was designed to curb.

***B. The '808 Reexamination Must be Terminated in Conformity with the Office's Consistent Agency Practice***

It is the Office's consistent practice to refuse to institute or terminate follow-on proceedings, such as the '808 Reexamination. *See, e.g., Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25; *Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 11-12; *Unified Patents, Inc., v. PersonalWeb Techs., LLC*, IPR2014-00702, paper 13; *Medtronic Inc., v. Nuvasive, Inc.*, IPR2014-00487, paper 8; *Prism Pharma Co. Ltd., v. Choongwae Pharma Corp.*, IPR2014-00315, paper 14; *Medtronic Inc., v. Robert Bosch Healthcare Systems, Inc.*, IPR2014-00436, paper 17; *Intelligent Bio-Systems, Inc., v. Illumina Cambridge Ltd.*, IPR2013-00324, paper 19; *ZTE Corp. v. ContentGuard Holdings, Inc.*, IPR2013-00454, paper 12. To reach any other conclusion would be unfair to Rembrandt, would be in violation of the core function of the post-grant review and reexamination statutory framework, would reward Samsung for belatedly filing a reexamination request, and would

undermine the integrity of the Office. *See, e.g., Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63, at 11-12.

Specifically, the Office has consistently denied "follow-on" petitions for post-grant review as representing impermissible "second bites at the apple," which use the prior proceedings "to bolster challenges that were advanced, unsuccessfully, in [an earlier proceeding]," *Unilever Inc. v. Proctor & Gamble*, IPR2014-00506, paper 17 at 8 (July 7, 2014), "as a roadmap to remedy [petitioner's] prior, deficient challenge," *Butamax v. Gevo, Inc.*, IPR2014-00581, Paper 8 at 12-13 (Oct. 14, 2014), or "as an entry ticket, and a how-to guide ... to challenge those claims which [petitioner] unsuccessfully challenged in the first petition," *ZTE Corp. v. ContentGuard*, IPR2013-00454, paper 12 at 6 (Sept. 25, 2013). As illustrated above, the '808 Reexamination of the '580 Patent resulted from such a "follow-on" request, provided Samsung with yet another "second bite at the apple," and used the related *thirteen* previously filed *inter partes* reviews as a road map for Samsung's request. Accordingly, the '808 Reexamination should be terminated in conformity with the Office's consistent practice with respect to follow-on requests for review, as reflected in the PTAB's "informative" decisions. *See, e.g., Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25; *Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63; *Unified Patents, Inc., v. PersonalWeb Techs., LLC*, IPR2014-00702, paper 13; *Medtronic Inc., v. Nuvasive, Inc.*, IPR2014-00487, paper 8; *Prism Pharma Co. Ltd., v. Choongwae Pharma Corp.*, IPR2014-00315, paper 14; *Medtronic Inc., v. Robert Bosch Healthcare Systems, Inc.*, IPR2014-00436, paper 17; *Intelligent Bio-Systems, Inc., v. Illumina Cambridge Ltd.*, IPR2013-00324, paper 19; *ZTE Corp. v. ContentGuard Holdings, Inc.*, IPR2013-00454, paper 12. Taking an inconsistent approach with respect to the '808 Reexamination would be arbitrary and thus unlawful.

***C. Policy Considerations Favor Terminating the '808 Reexamination***

OPLA argues that "To prevent the use of the reexamination process to harass the patent owner, Congress included the requirement that a substantial new question of patentability based on patents and printed publications must be raised by the request." '580 Petition Dismissal, at 6. While this may have been Congress's intent for the substantial new question standard, in the more than two decades since the substantial new question standard was implemented Congress has reached the conclusion that the substantial new question standard has been inadequate to achieve its intended purpose:

In the second sentence of 325(d), the present bill also authorizes the Director to reject any request for *ex parte* reexamination or petition for post-grant or *inter partes* review on the basis that the same or substantially the same prior art or arguments previously were presented to the Office. This will prevent parties from mounting attacks on patents that raise issues that are substantially the same as issues that were already before the Office with respect to the patent. The Patent Office has indicated that it currently is **forced to accept may requests for *ex parte* and *inter partes* reexamination** that raise challenges that are cumulative of or substantially overlap with issues previously considered by the Office with respect to the patent.

**The second sentence of 325(d) complements the protections against abuse of *ex parte* reexamination** that are created by sections 315(e) and 325(e).

157 Cong. Rec S1360-S1394, S1376 (emphasis added).

OPLA cannot ignore that § 325(d) was added to the America Invents Act for, *inter alia*, the express purpose of curing the inability of the substantial new question standard to prevent abuse of *ex parte* reexamination. Allowing the '808 Reexamination to proceed, as the Office has permitted thus far and as the CRU has done, would frustrate that purpose and would permit the type of harassment that § 325(d) was designed to curb. See H.R. Rep. No. 112-98, pt.1, at 48 (2011) ("While this amendment is intended to remove current disincentives to current



administrative processes, the changes made by it are not to be used as tools for harassment or a means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent. Doing so would frustrate the purpose of the section as providing quick and cost-effective alternatives to litigation.’”). *See also Conopco, Inc. dba Unilever v. Proctor & Gamble*, IPR2014-00628, paper 21 at 11 (“the interests of fairness, economy, and efficiency support declining ....”).

Further, allowing the '808 Reexamination to proceed incentivizes patent challengers to file serial petitions and requests and increases the burden on both the Office and patent owners in having to respond to renewed attacks from unhappy challengers seeking a reconsideration of the Office’s decisions denying institution and/or reexamination, based on arguments that the challenger could have set forth from the beginning. Clearly, this was not the intent of Congress.

The PTAB has consistently and effectively used §325(d) to curb attempts by challengers to game the Office through follow-on challenges. *See, e.g., Unilever v. Proctor & Gamble*, IPR2014-00506, paper 25; *Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and -00277, paper 63; *Unified Patents, Inc., v. PersonalWeb Techs., LLC*, IPR2014-00702, paper 13; *Medtronic Inc., v. Nuvasive, Inc.*, IPR2014-00487, paper 8; *Prism Pharma Co. Ltd., v. Choongwae Pharma Corp.*, IPR2014-00315, paper 14; *Medtronic Inc., v. Robert Bosch Healthcare Systems, Inc.*, IPR2014-00436, paper 17; *Intelligent Bio-Systems, Inc., v. Illumina Cambridge Ltd.*, IPR2013-00324, paper 19; *ZTE Corp. v. ContentGuard Holdings, Inc.*, IPR2013-00454, paper 12. Treating reexaminations differently – in spite of the statutory language – would serve as both an indication and a road map for future and current challengers that it is now "open season" on patent owners at the Office through reexamination attacks. Allowing the '808 reexamination to proceed will serve as an invitation for every party unhappy

with a denial of an *inter partes* review to file a request for *ex parte* reexamination on substantially the same or cumulative art and arguments. That is an invitation that the Office should decline to extend.

***D. Conclusion***

In light of the above, Rembrandt respectfully requests that the '580 Petition Dismissal be reconsidered, the Order for reexamination be vacated, and the '808 Reexamination be terminated. Rembrandt further requests that the Office's decision on this Request for Reconsideration be made a final agency action. *See, e.g.*, MPEP § 1002.02.

To the extent the Office believes any rules prevent consideration of this petition, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this Petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: September 18, 2017

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**CERTIFICATE OF SERVICE**

It is hereby certified that on this 18th day of September, 2017, the foregoing **PETITION REQUESTING RECONSIDERATION OF OPLA'S NOVEMBER 28, 2016 DISMISSAL OF REMBRANDT'S SEPTEMBER 30, 2016 PETITION UNDER RULE 181/182 REQUESTING THE DIRECTOR TO EXERCISE HER DISCRETIONARY AUTHORITY UNDER 35 U.S.C. § 325(D) AND A FINAL PETITION DECISION IN ACCORDANCE WITH PTAB PRACTICE** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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## EXHIBIT 1

### Claims 2 and 59 of the '580 Patent

1. A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence [106], in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence [108] that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence [114] after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

58. A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, and wherein the transceiver is configured to transmit messages with:

a first sequence [106], in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence [108], wherein, in at least one message, the first sequence indicates an

impending change from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.

59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence [114] after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

### **Claim 21 of the '228 Patent**

1. A master communication device configured to communicate with one or more slave transceivers according to a master/slave relationship in which a slave communication from a slave device to the master communication device occurs in response to a master communication from the master communication device to the slave device, the master communication device comprising:

a master transceiver configured to transmit a first message over a communication medium from the master transceiver to the one or more slave transceivers, wherein the first message comprises:

first information [126] modulated according to a first modulation method,

second information [132], including a payload portion, modulated according to the first modulation method, wherein the second information comprises data intended for one of the one or more slave transceivers and

first message address information that is indicative of the one of the one or more slave transceivers being an intended destination of the second information; and

said master transceiver configured to transmit a second message over the communication medium from the master transceiver to the one or more slave transceivers wherein the second message comprises:

third information [106] modulated according to the first modulation method, wherein the third information comprises information that is indicative of an impending change in modulation to a second modulation method, and

fourth information [108], including a payload portion, transmitted after transmission of the third information, the fourth information being modulated according to the second modulation method, the second modulation method being of a different type than the first modulation method, wherein the fourth information comprises data intended for a single slave transceiver of the one or more slave transceivers, and

second message address information that is indicative of the single slave transceiver being an intended destination of the fourth information; and

wherein the second modulation method results in a higher data rate than the first modulation method.

21. The master communication device as in claim 1, wherein the first information that is included in the first message comprises the first message address data.

## EXHIBIT 2

### Timeline of Rembrandt Litigation, IPRs and Reexaminations

#### **District Court Litigation:**

**March 15, 2013:** Rembrandt sued Samsung for infringement of the '580 Patent. *Rembrandt Wireless Tech., LP v. Samsung Elect. Co. Ltd.*, No. 2:13-cv-00213 (E.D. Tex. 2013).

**June 5, 2013:** Rembrandt filed an Amended Complaint alleging infringement of the '228 Patent.

**July 10, 2014:** The district court judge issued his claim construction memorandum and order.

**February 9-13, 2015:** *Rembrandt Wireless Tech. v. Samsung Elect. Co.* was tried before a jury. In the case, Rembrandt asserted claims 2 and 59 of the '580 Patent and claim 21 of the '228 Patent. On February 13, 2015, the jury rendered its verdict finding that all asserted claims were infringed and had not been proven invalid.

**February 17, 2016:** The district court denied Samsung's motion for JMOL (liability issues).

**April 17, 2017:** The Federal Circuit affirmed the district court's claim construction in the *Rembrandt Wireless Tech. v. Samsung Elect. Co.* case and affirmed the jury's determination that claims 2 and 59 of the '580 Patent and claim 21 of the '228 Patent are not invalid. Samsung did not challenge the jury's infringement findings on appeal. The case was remanded on an issue of damages. *Rembrandt Wireless Techs., LP v. Samsung Elect. Co. Ltd.*, No. 16-1729 (Fed. Cir. 2016).

#### ***Inter Partes* Review Proceedings:**

**March 20, 2014:** Samsung filed 4 IPRs against the '580 Patent, IPR2014-00514, -00515, -00518, -00519.

In IPR2014-00514, Samsung asserted that claims 1, 2, 4, 5, 10, 13, 19-22, 49, 52-54, 57-59, 61, 62, 66, 70, and 76-79 of the '580 Patent were unpatentable under § 102(b)/103 based on a draft version of the 802.11 standard (the "Draft Standard") and under § 103(a) based on the Draft Standard and U.S. 5,706,428 ("Boer"). On September 9, 2014, the PTAB denied the petition because Samsung did not establish that the Draft Standard was a printed publication, and the "Petition fails to demonstrate a reasonable likelihood of prevailing on the grounds that the challenged claims are anticipated by, or obvious over, Draft Standard or obvious over Draft Standard and Boer." On October 24, 2014, the PTAB denied Samsung's Rehearing Request.

In IPR2014-00515, Samsung asserted that claims 23, 25, 29, 30, 32, 34, 38, 40, 41, 43, 44, and 47 of the '580 Patent were anticipated by or obvious in view of the Draft Standard. On September 9, 2014, the PTAB denied the petition because Samsung did not establish that the Draft Standard was a printed publication. On October 24, 2014, the PTAB denied Samsung's Rehearing Request.

In IPR2014-00518, Samsung asserted that claims 1, 2, 4, 5, 10, 13, 19-22, 49, 52-54, 57-59, 61, 62, 66, 70, and 76-79 of the '580 Patent were unpatentable under 35 U.S.C. § 103(a) over Admitted Prior Art ("APA") and Boer (also in view of Upender). On September 23, 2014, the PTAB instituted the IPR to review claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79 but did *not* institute review of claims 2, 19, 49, 52, 53, and 59. With respect to claims 2, 49, and 59, the PTAB was "not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge." On September 17, 2015, in its final decision, the PTAB concluded that claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79 were unpatentable under § 103(a) over APA and Boer (combination motivated by Upender).

In IPR2014-00519, Samsung asserted that claims 23, 25, 30, 32, 34, 40, 41, 43, and 44 of the '580 Patent were unpatentable under § 102(e) based on Boer and that claims 29, 38, and 47 were unpatentable under § 103(a) based on Boer and APA (also in view of Upender). On September 23, 2014, the PTAB instituted the IPR to review claims 32, 34, 38, 40, 43, 44, and 47 but *not* claims 23, 25, 29, 30, and 41 because Samsung "ha[d] not shown a reasonable likelihood that it would prevail in demonstrating" that those claims are unpatentable on any ground." On September 17, 2015, in its final decision, the PTAB terminated the trial with respect to claims 32, 34, 40, 43, and 44 (disclaimed) and concluded that claims 38 and 47 of the '580 Patent were unpatentable over APA and Boer (combination motivated by Upender).

**June 4, 2014:** Samsung files 6 IPRs against the '228 Patent, IPR2014-00889, 00890, 00891, 00892, 00893, 00895

In IPR2014-00889, Samsung asserted that claims 1-3, 5, 10, and 11-21 of the '228 Patent were unpatentable based on the Draft Standard, Boer, and U.S. 5,537,398 ("Siwiak"). On December 10, 2014, the PTAB denied the petition because Samsung did not establish that the Draft Standard was a printed publication and thus had not shown a reasonable likelihood of prevailing on the grounds asserted.

In IPR2014-00890, Samsung asserted that claims 22, 23, and 25 of the '228 Patent were unpatentable based on the Draft Standard and Boer. On December 10, 2014, the PTAB denied Samsung's petition because Samsung failed to establish that the Draft Standard was a "printed publication" and, thus, had not shown a reasonable likelihood of prevailing on the grounds asserted based on the Draft Standard alone or in combination with Boer.



In IPR2014-00891, Samsung alleged that claims 26-29, 31, 36-41, 43, and 47-52 of the '228 Patent were unpatentable. To support its allegations, Samsung relied on the Draft Standard alone, combined with Boer, combined with the APA, and combined with Boer and APA. On December 10, 2014, the PTAB denied Samsung's petition concluding that Samsung "has not shown a reasonable likelihood that it would prevail in demonstrating that: (1) claims 26-29, 37-41, 43, and 47-52 of the '228 Patent are unpatentable as anticipated or obvious in view of Draft Standard; (2) claims 26-29, 36-41, 43, and 47-52 of the '228 Patent are unpatentable as obvious in view of Draft Standard and Boer; (3) claims 29, 31, 36, and 51 of the '228 Patent are unpatentable as obvious in view of Draft Standard and APA; or (4) claims 29, 31, 36, and 51 of the '228 Patent are unpatentable as obvious in view of Draft Standard, Boer, and APA."

In IPR2014-00892, Samsung alleged that claims 1-3, 5, and 10-21 of the '228 Patent were unpatentable under 35 U.S.C. § 103(a) over the APA and Boer. Upender was cited as Ex. 1322 to provide motivation to combine. On December 10, 2014, the PTAB instituted the IPR to review claims 1-3, 5, and 10-20 but *not* claim 21 because the petition did not demonstrate a reasonable likelihood of prevailing on the obviousness ground of unpatentability as to claim 21. In its final decision, the PTAB concluded that claims 1-3, 5, and 10-20 were unpatentable for obviousness over APA and Boer (using Ex. 1322 to find motivation to combine APA and Boer). On January 27, 2015, the PTAB denied Samsung's Rehearing Request with respect to claim 21.

In IPR2014-00893, Samsung alleged that claims 22, 23, and 25 of the '228 Patent were unpatentable under § 103(a) based on the APA and Boer (using Upender (now Ex. 1422) to combine APA and Boer). Samsung relied on Upender to support its allegation that there was motivation to combine. On December 10, 2014, the PTAB instituted the IPR. In its final decision, the PTAB concluded that claims 22, 23, and 25 were unpatentable for obviousness over APA and Boer (using Upender to find motivation to combine APA and Boer).

In IPR2014-00895, Samsung alleged that claims 26-29, 31, 36-41, 43, and 47-52 of the '228 Patent were unpatentable under § 103(a) based on the APA and Boer. Samsung also relied on Upender (Ex. 1522) to provide motivation to combine APA and Boer. The PTAB instituted the IPR to review all challenged claims. In its final decision, the PTAB concluded that these claims were unpatentable under § 103(a) based on the APA and Boer (and relying on Upender to make the claimed combination).

**October 21, 2014:** Samsung filed two additional IPRs against the '580 Patent, namely, IPR2015-00114 and IPR2015-00118. These IPRs challenged the claims for which the PTAB failed to institute in IPR2014-00518 and IPR2015-00519. Since the IPRs were outside the 1 year window, they were accompanied by motions seeking to join the new IPRs to IPR2014-00518 and IPR2014-00519 respectively.

In IPR2015-00114, Samsung again challenged claims 2, 19, 49, 52, 53, 59 of the '580 Patent under § 103(a) based on APA and Boer (and citing Upender for motivation to combine these references). On January 28, 2015, the PTAB denied institution under § 325(d) and denied the joinder motion.

In IPR2015-00118, Samsung again challenged claims 23, 25, 29, 30, and 41 of the '580 Patent under § 103(a) based on the APA and Boer (and citing Upender for motivation to combine these references). On January 28, 2015, the PTAB denied institution under § 325(d) and denied the joinder motion.

**January 9, 2015:** Samsung filed an additional IPR against the '228 Patent, namely, IPR2015-00555. In this IPR, Samsung challenged claim 21, i.e., the claim for which the PTAB failed to institute in IPR2014-00892, under § 103(a) based on the APA, Boer, and Siwiak. Samsung also sought joinder with IPR2014-00892. On June 19, 2015, the PTAB denied institution under Section 325(d) and denied the joinder motion.

***Ex Parte Reexaminations:***

**September 12, 2016:** Samsung filed 2 requests for reexamination, 90/013,808 attacking claims 2 and 59 of the '580 Patent and 90/013,809 attacking claim 21 of the '228 Patent.

**September 27, 2016:** The Office ordered reexamination in the '808 case ('580 Patent).

**September 30, 2016:** Rembrandt filed petitions in both reexaminations asking the Director to exercise her authority under Section 325(d) and pointing to the PTAB's numerous refusals under Section 325(6) to consider additional IPRs.

**October 17, 2016:** The Office ordered reexamination in the '809 case ('228 Patent).

**November 28, 2016:** Rembrandt's two Section 325(d) petitions were dismissed based on the Office's position that Rembrandt had not established there was no substantial new question of patentability.

**January 24, 2017:** The Office issued a non-final Office Action in the '808 case ('580 Patent) which, *inter alia*, raised issues beyond the scope of reexamination.

**February 9, 2017:** Rembrandt filed a petition in the '808 case ('580 Patent) asking the Director to withdraw the January 24, 2017 non-final Office Action and revise and reissue another non-final Office Action.

**March 9, 2017:** The Office issued a non-final Office Action in the ‘809 case (‘228 Patent) which, *inter alia*, raised issues beyond the scope of reexamination.

**March 27, 2017:** The CRU Director issued a “Decision Sua Sponte Vacating Non Final Office Action” in the ‘808 case (‘580 Patent) because it “include[d] a discussion of issues outside the scope of ex parte reexamination ....” The Decision also indicated the Office Action “will form no part of the record and will not be available to the public.”

**March 31, 2017:** The Office issued another non-final Office Action in the ‘808 case (‘580 Patent). Rembrandt’s response is due June 30, 2017.

**April 3, 2017:** Rembrandt’s February 9, 2017 petition in the ‘808 case (‘580 Patent) was dismissed as “moot” in view of the CRU Director’s withdrawal of the January 24, 2017 Office Action and issuance of another Office Action on March 31, 2017.

**April 3, 2017:** Rembrandt filed a petition in the ‘809 case (‘228 Patent) asking the Director to withdraw the March 9, 2017 non-final Office Action and revise and reissue another non-final Office Action.

**April 5, 2017:** The CRU Director issued a “Decision Sua Sponte Vacating Examiner’s Answer [*sic*: Non Final Office Action]” in the ‘809 case (‘228 Patent) because it “include[d] a discussion of issues outside the scope of ex parte reexamination ....” The Decision also indicated the Office Action “will form no part of the record and will not be available to the public.”

**May 2, 2017:** Rembrandt filed a petition in the ‘808 case (‘580 Patent) asking the Director to either (a) terminate the reexamination proceeding because the Office views the claims as indefinite and proceeding would necessarily be based on speculative assumption as to the meaning of the claims or (b) vacate the March 31, 2017 non-final Office Action and revise and reissue another non-final Office Action because the Office Action exceeds the limited scope of *ex parte* reexamination and fails to adequately detail the pertinence and manner of applying the cited art.

**May 3, 2017:** The Office issued another non-final Office Action in the ‘809 case (‘228 Patent). That same day, Rembrandt’s April 3, 2017 petition was dismissed as “moot” in view of the CRU Director’s withdrawal of the March 9, 2017 Office Action and issuance of another Office Action on May 3, 2017. Rembrandt’s response is due August 3, 2017.

**June 8, 2017:** Rembrandt filed a petition in the ‘809 case (‘228 Patent) asking the Director to vacate the May 3, 2017 non-final Office Action as *ultra vires* because the Office has not made

the threshold finding that the rejection based on Boer, the so-called Admitted Prior Art (“APA”), and Yamano (“the Boer Rejection”) presented a substantial new question of patentability. In addition, the petition asked the Director to terminate the portion of the reexamination relating to the Boer Rejection under 35 U.S.C. §325(d) because it merely rehashes prior art and arguments substantively identical to those presented previously in IPR2015-00555. This petition is pending.

**June 22, 2017:** The Office issued a decision on Rembrandt's May 2, 2017 Petition in the '808 case ('580 Patent) asking the Directed to terminate the '808 reexamination or vacate and revise the March 31, 2017 non-final Office Action. In the decision, the Office dismissed Rembrandt's petition finding the examiner did not abuse her discretion in the March 31, 2017 Office Action. The decision also indicated that some of the issues raised in the petition were appealable, not petitionable, issues.

**June 30, 2017:** The Office issued a Final Office Action in the '808 case ('580 Patent). Rembrandt's response is due September 18, 2017.

**July 7, 2017:** Rembrandt requested an extension of time to respond to the May 3, 2017 non-final Office Action in the '809 case ('228 Patent).

**July 10, 2017:** The Office granted Rembrandt's request for an extension of time to respond to the May 3, 2017 non-final Office Action in the '809 case ('228 Patent), extending the due date from August 3, 2017 to August 13, 2017.

**August 14, 2017:** Rembrandt filed its response to the to the May 3, 2017 non-final Office Action in the '809 case ('228 Patent). The response was filed on August 14, 2017 as August 13, 2017 was a Sunday.

### EXHIBIT 3

The following table compares Samsung’s claim charts presented in its ‘580 Reexam Request to support its alleged SNQ 1 re claims 2 and 59 of the ‘580 Patent (pp. 44-62) with Samsung’s claim charts presented to support its ‘114 IPR Petition re claims 2 and 59 of the ‘580 Patent (pp. 25-32 (claims 1 and 2) and pp. 43-49 (claims 58 and 59)) (emphases are Samsung’s).<sup>1</sup> The claim limitations in the left-hand column are reproduced from the ‘580 Reexam Request. To address the fact that Samsung divided up the claim elements differently in the IPR claim charts than it did in the reexamination request claim charts, the right-hand column indicates what element in the ‘114 IPR Petition match up with those in the ‘580 Reexam Request.

‘580 Patent Claim 2	Samsung's Argument in the '808 Reexamination	Samsung's Argument in the '114 IPR
<p>1.[preamble] A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:</p>	<p><b>To the extent this preamble is considered a limitation of the claim, Snell discloses a communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave. See, e.g., Snell at 1:34-46, 1:47-50, 1:55-57, 2:27-30, 4:42-47, 5:18-21; Harris AN9614 at 3.</b></p> <p>For example, Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area network (WLAN).</p> <p>"In a typical WLAN, an access point provided by a transceiver, that is, a</p>	<p>[1a]:</p> <p>For a communication system that communicates according to a master/slave relationship, <i>see</i> Ex. 1201 (APA), Figs. 1 &amp; 2; 3:6-10 (“FIG. 1 is a block diagram of a prior art multipoint communication system including a master transceiver and a plurality of tributary transceivers.”); and</p> <p>3:40-44 (“With reference to FIG. 1, a prior art multipoint communication system 22 is shown to comprise a master modem or transceiver 24, which communicates with a plurality of tributary modems (tribs) or transceivers 26-26 over communication medium 28.”).</p>

<sup>1</sup> Substantially the same comparisons were made in the ‘518 IPR Petition. See pp. 28-33 (claims 1 and 2), 52-57 (claims 58 and 59).

	<p>combination transmitter and receiver, connects to the wired network from a fixed location. Accordingly, the access transceiver receives, buffers, and transmits data between the WLAN and the wired network. <i>A single access transceiver can support a small group of collocated users within a range of less than about one hundred to several hundred feet. The end users connect to the WLAN through transceivers</i> which are typically implemented as PC cards in a notebook computer, or ISA or PCI cards for desktop computers. Of course the transceiver may be integrated with any device, such as a hand-held computer." Snell at 1:34-46.</p> <p>"Like the HSP3824 baseband processor, the high data rate baseband processor 40 of the invention contains all of the functions necessary for a full or half duplex packet baseband transceiver." Snell at 5:18-21.</p> <p>"The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, <i>packet communications</i> at the 2.4 to 2.5 GHz ISM radio band." Snell at 1:55-57.</p> <p><i>See also, e.g.,</i> Snell at 2:27-30 ("It is another object of the invention to provide a</p>	<p>For master/slave relationship, <i>see</i> Ex. 1201 (APA), 4:4-9 ("This system uses polled multipoint communication protocol. That is, a master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.").</p> <p>Boer discloses a communication system. <i>See e.g.</i> Ex. 1204, Figs. 1-3 and 8.</p>
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	<p><i>spread spectrum transceiver</i> and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats."); Snell at 1:47-50 ("The assignee of the present invention has developed and manufactured a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard."); Snell at 4:42-47 ("Referring to FIG. 1, <i>a wireless transceiver 30</i> in accordance with the invention is first described. <i>The transceiver 30 may be readily used for WLAN applications</i> in the 2.4 GHZ ISM band in accordance with the proposed IEEE 802.11 standard. Those of skill in the art will readily recognize other applications for the transceiver 30 as well.").</p> <p>Snell incorporates by reference Harris AN9614, which discloses that the communications between transceivers can operate according to a polled (i.e., master/slave) protocol. See, e.g., Harris AN9614 at 3.</p> <p>"[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only</p>	
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	<p>awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives." Harris AN9614 at 3.</p>	
<p>[1.A] a transceiver, in the role of the master according to the master/ slave relationship,</p>	<p><b>Snell discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See</i> Element 1.preamble.</p>	<p>See [1a].</p>
<p>[ 1.B] for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,</p>	<p><b>Snell discloses a transceiver for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method. <i>See, e.g.,</i> Snell at Abstract, 1:58-61, 2:56-59, 2:61-3:5, 6:64-66, 7:6-8, Figs. 2, 3, 5; Harris 4064.4 at 14-16.</b></p>	<p>[This claim language is included in Samsung’s ‘114 claim chart under [1b], [1c], &amp; [1d] (and in the Samsung’s ‘518 claim chart).]</p> <p>[1b]:</p> <p>APA demonstrates master transceivers are in prior art. <i>See</i> claim element [1a].</p> <p><u>For Boer’s teachings regarding “transceivers, <i>See e.g.</i> Ex. 1204, Figures 1-3, 8;</u></p> <p>2:6-22 (“Referring first to</p>



	<p>For example, Snell discloses that transmissions are modulated using a "first modulation method" (e.g., BPSK) and a "second modulation method" (e.g., QPSK) that is of a different "type" than the "first modulation method."</p> <p>"The modulator preferably comprises means for operating <i>in one of a biphasic PSK (BPSK) modulation mode</i> at a first data rate defining a first format, and <i>a quadrature PSK (QPSK) mode</i> at a second data rate defining a second format." Snell at 2:56-59.</p> <p>"In particular, the HSP3824 baseband processor manufactured by Harris Corporation <i>employs quadrature or bi-phase phase shift keying (QPSK or BPSK) modulation schemes.</i>" Snell at 1:58-61.</p> <p><i>See also, e.g.,</i> Snell at Abstract ("The modulator and demodulator are each preferably operable in one of a bi-phase PSK (BPSK) mode at a first data rate and a quadrature PSK (QPSK) mode at a second data rate. These formats may also be switched on-the-fly in the demodulator."), 2: 15-17 ("Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-</p>	<p>FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented. The LAN 10 includes an access point 12, which serves as base station, and is connected to a cable 14 which may be part of a backbone LAN (not shown), connected to other devices and/or networks with which stations in the LAN 10 may communicate. The access point 12 has antennas 16 and 17 for transmitting and receiving messages over a wireless communication channel. The network 10 includes mobile stations 18, referred to individually as mobile stations 18-1, 18-2, and having antennas 20 and 21, referred to individually as antennas 20-1, 20-2 and 21-1, 21-2. The mobile stations 18 are capable of transmitting and receiving messages selectively at a data rate of 1 Mbps (Megabit per second) or 2 Mbps, using DSSS (direct sequence spread spectrum coding.); and</p> <p>2:34-37 ("Also included in the LAN 10 are further mobile stations 22, referred to individually as stations 22-1 and 22- 2, and having antennas 24 and 25, referred to individually as antennas</p>
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	<p>fly.").</p> <p>Snell describes that the "first modulation method" may be BPSK and the "second modulation method" may be QPSK, which is "of a different type than the first modulation method," and alternatively describes that the "first modulation method" may be differential BPSK ("DBPSK") and that the "second modulation method" may be differential QPSK ("DQPSK"), which is also "of a different type than the first modulation method."</p> <p>Thus, Snell alternatively discloses modulating the PLCP preamble and PLCP header using DBPSK modulation, and modulating the MPDU data using DBPSK or DQPSK modulation.</p> <p><i>"The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker."</i> Snell at 6:64-66.</p> <p>"The modulator may also preferably include header modulator means for modulating data packets to include <i>a header at a predetermined modulation and a third data rate defining a third format .... The third format is preferably differential BPSK.</i>" Snell at 2:61-3:5.</p>	<p>24-1, 24-2 and 25-1, 25-2.")</p> <p><u>Transmissions modulated using at least two types of modulation methods:</u></p> <p>Abstract ("A wireless LAN includes first stations adapted to operate at a 1 or a 2 Mbps data rate and second stations adapted to operate at a 1,2,5 or 8 Mbps data rate. The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation.");</p> <p>2:23-27 ("When operating at the 1 Mbps data rate, DBPSK (differential binary phase shift keying) modulation of the RF carrier is utilized, and when operating at the 2 Mbps data rate DQPSK (differential quadrature phase shift keying) modulation of the RF carrier is utilized."); and</p> <p>2:37-44 ("The stations 22 can operate at a 1 Mbps or a 2 Mbps data rate, using the same modulation and DSSS coding as the stations 18, and in addition can also operate at two higher data rates, namely 5 Mbps and 8 Mbps. These 5 and 8 Mbps data rates utilize PPM/DQPSK (pulse position modulation--differential</p>
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"The reference phase for the first symbol of the *MPDU* is the output phase of the last symbol of the header *for Diff Encoding*." Snell at 7:6-8 .

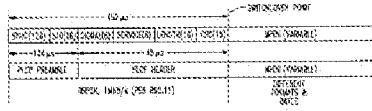


FIG. 3

Snell at Fig. 3.

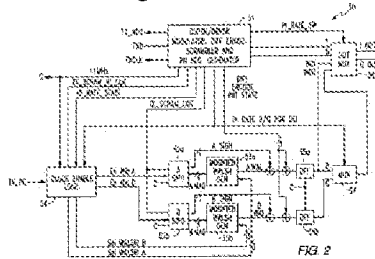


FIG. 2

Snell at Fig. 2.

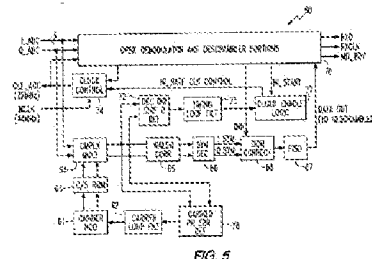


FIG. 5

Snell at Fig. 5.

Snell incorporates by reference Harris 4064.4, which discloses:

"The preamble and header are always transmitted as *DBPSK* waveforms while the data packets can be configured to be *either DBPSK or DQPSK*." Harris 4064.4 at 14.

"The HSP3824 transmitter is designed as a Direct

quadrature phase shift keying) in combination with the 11-chip Barker code mentioned hereinabove.”).

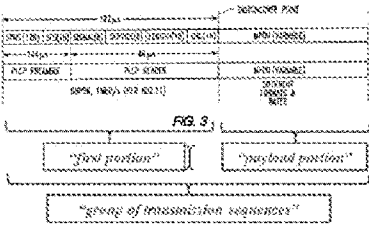
[1c]:

In Boer, DBPSK is the “first modulation method.” Both DQPSK and PPM/DQPSK can be the “second modulation method.” See claim element [1b].

[1d]:

DBPSK modulation is a different “type” of modulation than either DQPSK or PPM/DQPSK. See claim element [1b].

	<p>Sequence Spread Spectrum <i>DBPSK/DQPSK modulator.</i>" Harris 4064.4 at 14.</p> <p>"The modulator is capable of switching rate automatically in the case where the preamble and header information are DBPSK modulated, and the data is DQPSK modulated." Harris 4064.4 at 14.</p> <p><i>See also, e.g.,</i> Harris 4064.4 at 15 ("The preamble is always transmitted as a DBPSK waveform with a programmable length of up to 256 symbols long."); Harris 4064.4 at 15 ("Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as <i>DBPSK or DQPSK</i>. In mode 3 the HSP3824 receiver <i>looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation</i> at the end of the always DBPSK preamble and header fields."); Harris 4064.4 at 16 ("Mode 3 - In this mode the preamble is programmable up to 256 bits (all 1's). The header in this mode is using all available fields. In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data</p>	
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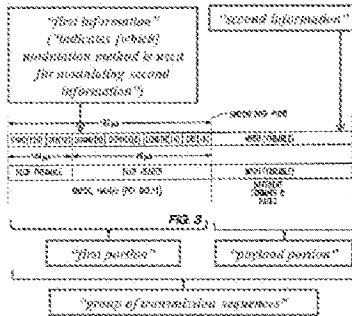
	<p>packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet.").</p>	
<p>[1.C] wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion</p>	<p><b>Snell discloses each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion. See, e.g., Snell at 6:35-36, 6:64-66, 7:5-14, Fig. 3.</b></p> <p>For example, Snell discloses transmitting a group of transmission sequences structured with a "first portion" including the PLCP preamble and PLCP header and a "payload portion" including the MPDU data (as depicted in Figure 3 below)</p>  <p>Snell at Fig. 3 (annotated).</p> <p>"The <i>header</i> may always be BPSK." Snell at 6:35-36.</p> <p>"The <i>PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker." Snell at</p>	<p>[1e]:</p> <p>Boer discloses a message 200, shown in Figure 4, that "include[s] an initial portion and a data portion." <i>See e.g.</i> Ex. 1204.</p> <p>1:33-37 ("Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion . . . .");</p> <p>Abstract ("All transmitted messages start with a preamble and header at the 1 Mbps rate. The header includes fields identifying the data rate for the data portion of the message, and a length field. For a 2 Mbps transmission the length field identifies the number of bytes in the data field.").</p> <p>1:33-37 ("Therefore, according to the present invention, there is provided a method of</p>

	<p>6:64-66.</p> <p>"MPDU is serially provided by Interface 80 and <i>is the variable data</i> scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data</i> may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly." Snell at 7:5-14.</p>	<p>operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion..."):</p> <p>3:56-65 ("With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove. Of course, the stations 18 are capable of transmitting at the 1 and 2 Mbps rates only, whereas the stations 22 can transmit the DATA field 214 at a selected one of the four data rates.").</p> <p>The "initial portion" in Boer is the claimed "first portion," while the "data portion" in Boer is the "payload portion."</p>
<p>[ 1.D] wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for</p>	<p><b>Snell discloses that first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the</b></p>	<p>[1f]:</p> <p>See e.g. Ex. 1204, Abstract ("The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK</p>

modulating second information in the payload portion,

**payload portion. See, e.g., 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14; Harris 4064.4 at 15-16, Fig. 10.**

For example, Snell discloses that the "SIGNAL" in the PLCP Header indicates (e.g., using "OAh," "14h," ... ) the modulation type (e.g., BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion.



Snell at Fig. 3 (annotated).

"The header may always be BPSK." Snell at 6:35-36.

"The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker." Snell at 6:64-66.

"Now relating to the PLCP header 91, the SIGNAL is:

0Ah	1 Mbps BPSK
14h	2 Mbps QPSK
2Dh	5.5 Mbps BPSK use
9Fh	11 Mbps QPSK

Snell at 6:52-59.

"SIGNAL is indicated by 2 control bits and then

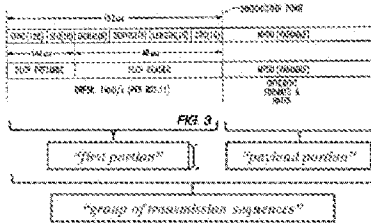
modulation... The header includes fields identifying the data rate for the data portion of the message, and a length field.");

4:4-11 ("The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate."); and

6:5-17 ("In a station 22 which is to transmit a message, the C-MST 132 inserts the preamble 216 and header 218... The rate selector 142 uses the SIGNAL and SERVICE fields 206, 208 to decide whether or not the encoder 146 should switch to the 2, 5 or 8 Mbps modes. If rate switching is to take place, then after the last bit of the header 218 has passed through, the rate selector 142 provides a control signal to the encoder, to switch from operation in the 1 Mbps DBPSK mode to the 2 Mbps DQPSK mode, 5 Mbps PPM/QPSK

	<p>formatted as described." Snell at 7:1-2.</p> <p>"MPDU is serially provided by Interface 80 and <i>is the variable data</i> scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data may be modulated and demodulated in different formats</i> than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly." Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4, which discloses:</p> <p><i>"Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK.</i> In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields." Harris 4064.4 at 15.</p> <p>"In mode 3 <i>the signal field defines the modulation type</i></p>	<p>mode or the 8 Mbps PPM/QPSK mode, whereby the DATA field 214 is encoded in the selected manner."</p> <p>The data within SIGNAL and SERVICE fields in Boer are the "first information" and indicate which type of modulation method is used modulate data (the "second information") in DATA field 214. The data within the DATA field 214 in Boer is the "second information."</p>
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	<p>of the data packet (DBPSK or DQPSK) so the receiver does not need to be preprogrammed to anticipate one or the other. In this mode the device checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field. Note that the preamble and header are always DBPSK the modulation definition applies only for the data packet." Harris 4064.4 at 16.</p> <p>See also, e.g., Harris 4064.4 at FIGURE 10.</p>	
<p>[1.E] wherein at least one group of transmission sequences 1s addressed for an intended destination of the payload portion, and</p>	<p><b>Snell in view of Yamano discloses that at least one group of transmission sequences is addressed for an intended destination of the payload portion. See, e.g., 6:35-36, 6:64-66, 7:5-14, Fig. 3; Harris 4064.4 at 14.</b></p> <p>For example, Snell discloses that the transceiver transmits a group of transmission sequences (including a PLCP Preamble and PLCP header, and MPDU data) to another transceiver.</p>  <p>Snell at Fig. 3 (annotated).</p>	<p>[1g]:</p> <p>See Ex. 1204, 6:28-31 (“The C-MST 132 determines if an incoming message is addressed to its own station, using a destination address included in the DATA field 214 of the message 200.”).</p>

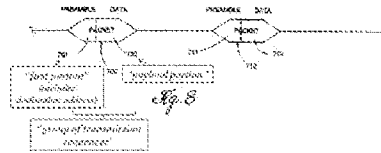
	<p>"The <i>header</i> may always be BPSK." Snell at 6:35-36.</p> <p>"<i>The PLCP preamble and PLCP header</i> are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker." Snell at 6:64-66.</p> <p>"<i>MPDU</i> is serially provided by Interface 80 and <i>is the variable data</i> scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. <i>The variable data</i> may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly." Snell at 7:5-14.</p> <p>Snell incorporates by reference Harris 4064.4, 16 which discloses:</p> <p>"The <i>preamble and header</i> are always transmitted as DBPSK waveforms while the <i>data packets</i> can be configured to be either DBPSK or DQPSK." Harris 4064.4 at 14.</p> <p><b>Yamano discloses at least one group of transmission</b></p>	
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**sequences is addressed for an intended destination of the payload portion. See, e.g., Yamano at 19:63-64, 20:1-7, 20:54-59, Fig. 8.**

For example, Yamano discloses transmitting a group of transmission sequences, including a preamble and main body, and that the preamble includes a destination address "for an intended destination of the payload portion."

"*Packet 700* includes a *preamble 701* and a *main body 702*." Yamano at 19:63-64.

"For example, *preamble 701* can include information which identifies: (1) a version or type field for the preamble, (2) *packet source and destination addresses*, (3) the line code (i.e., the modem protocol being used), (4) the data rate, (5) error control parameters, (6) packet length and (7) a timing value for the expected reception slot of a subsequent packet." Yamano at 20:1-7 (emphasis added).

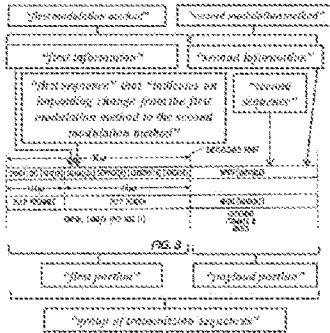


Yamano at Figure 8 (annotated).

"When the preamble in a burst-mode packet *includes*

	<p><i>the destination address of the packet, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits." Yamano at 20:54-59.</i></p>	
<p>[ 1.F] wherein for the at least one group of transmission sequences: the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>Snell discloses for the at least one group of transmission sequences, the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method. See, e.g., Snell at 2:61-3:5, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Figs. 2, 3, 5; Harris 4064.4 at 15-16, Fig. 10.</b></p> <p>For example, Snell discloses that the "first information" (e.g., PLCP preamble and PLCP header) comprises a "first sequence (e.g., "SIGNAL" field in PLCP header) "modulated according to a first modulation method" (e.g., BPSK). The "SIGNAL" field "indicates" (e.g., using "14h") "an impending change from the first modulation method"</p>	<p>[This claim language is included in Samsung's '114 claim chart under [1.g], [1.h], &amp; [1.i] (pp. 29-30)( and in Samsung's '518 claim chart).]</p> <p>[1g]:</p> <p>See Ex. 1204, 6:28-31 ("The C-MST 132 determines if an incoming message is addressed to its own station, using a destination address included in the DATA field 214 of the message 200.").</p> <p>[1h]:</p> <p>Ex. 1204, 3:56-58 ("With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation.").</p> <p>SIGNAL field 206 and SERVICE field 208 are the "first sequence."</p>

(e.g., BPSK) "to the second modulation method" (e.g., QPSK).



Snell at Fig. 3 (annotated).

"The header may always be BPSK." Snell at 6:35-36.

"Now relating to the PLCP header 91, the SIGNAL is:

0x1	1 Mbps BPSK
0x2	2 Mbps DQPSK
0x3	5.5 Mbps BPSK, var
0x4	11 Mbps QPSK

Snell at 6:52-59.

"SIGNAL is indicated by 2 control bits and then formatted as described." Snell at 7:1-2.

"MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding. The last symbol of the header into the scrambler 51 must be followed by the first bit of the MPDU. The variable data may be modulated and demodulated in different formats than the

[11]:

See e.g. Ex. 1204, Abstract ("The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation... The header includes fields identifying the data rate for the data portion of the message, and a length field.")

4:4-11 ("The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate."); and

6:5-17 ("In a station 22 which is to transmit a message, the C-MST 132 inserts the preamble 216 and header 218... The rate selector 142 uses the SIGNAL and SERVICE fields 206, 208 to decide whether or not the encoder 146 should switch to the 2, 5 or 8 Mbps modes. If rate switching is to take place, then after the last bit of the

	<p>header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly." Snell at 7:5-14.</p> <p>Snell describes that the "first modulation method" may be BPSK and the "second modulation method" may be QPSK, which is of a different "type" than the first modulation method, and alternatively describes that the "first modulation method" may be differential BPSK ("DBPSK") and that the "second modulation method" may be differential QPSK ("DQPSK"), which is also of a different "type" than the first modulation method.</p> <p>Thus, Snell alternatively discloses that the PLCP preamble and PLCP header includes a "SIGNAL" field that may be modulated according to a "first modulation method" (e.g., <u>DBPSK</u>) and "indicates an impending change from the first modulation method" (e.g., <u>DBPSK</u>) "to the second modulation method" (e.g., <u>DQPSK</u>).</p> <p><i>"The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker."</i> Snell at 6:64-66.</p> <p>"The modulator may also</p>	<p>header 218 has passed through, the rate selector 142 provides a control signal to the encoder, to switch from operation in the 1 Mbps DBPSK mode to the 2 Mbps DQPSK mode, 5 Mbps PPM/QPSK mode or the 8 Mbps PPM/QPSK mode, whereby the DATA field 214 is encoded in the selected manner."</p>
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	<p>preferably include header modulator means for modulating data packets to include <i>a header at a predetermined modulation and a third data rate defining a third format .... The third format is preferably differential BPSK.</i>" Snell at 2:61-3:5.</p> <p>"MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation. <i>The reference phase for the first symbol of the MPDU is the output phase of the last symbol of the header for Diff Encoding.</i>" Snell at 7:5-8. <i>See also, e.g., Snell at Figs. 2, 3, 5.</i></p> <p>Snell incorporates by reference Harris 4064.4, which discloses:</p> <p><i>"Signal Field (8 Bits) - This field indicates whether the data packet that follows the header is modulated as DBPSK or DQPSK. In mode 3 the HSP3824 receiver looks at the signal field to determine whether it needs to switch from DBPSK demodulation into DQPSK demodulation at the end of the always DBPSK preamble and header fields."</i> Harris 4064.4 at 15.</p> <p><i>"In mode 3 the signal field defines the modulation type of the data packet (DBPSK or DQPSK) so the receiver does</i></p>	
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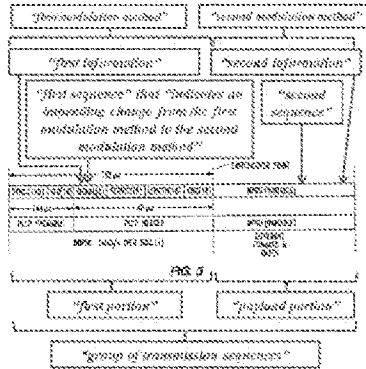
	<p>not need to be preprogrammed to anticipate one or the other. In this mode the device <i>checks the Signal field for the data packet modulation and it switches to DQPSK if it is defined as such in the signal field.</i> Note that the <i>preamble and header are always DBPSK the modulation definition applies only for the data packet.</i>" Harris 4064.4 at 16.</p> <p><i>See also, e.g., Harris 4064.4 at FIGURE 10.</i></p>	
<p>[1.G] the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</p>	<p><b>Snell discloses that the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p>See Element 1 .F.</p>	<p>[This claim language is included in Samsung's '114 claim chart under [1j] &amp; [1k] (and in Samsung's '518 claim chart). Again, [1.F] in Samsung's Request corresponds to [1g], [1h], &amp; [1i] in Samsung's '114 claim chart (and Samsung's '518 claim chart).]</p> <p>[1j]:</p> <p>Boer teaches that data (the "second sequence") within DATA field 214 can be modulated using the second type of modulation method (DQPSK or PPM/DQPSK) when the SIGNAL 206 and SERVICE 208 fields so indicate. Ex. 1204, 1:33-47, 3:56-62, 4:4-11 &amp; 6:5-21. Each citation is quoted above.</p> <p>[1.k]:</p>



		<p>The DATA field 214 in Boer (i.e., the recited “second sequence”) is transmitted after SIGNAL field 206 and SERVICE field 208 (the recited “first sequence”). <i>See e.g.</i> Ex. 1204, Fig. 4.</p> <p><i>See e.g.</i> Ex. 1204, 3:56-62. (“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove..[sic]”).</p>
<p>2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method</p>	<p><i>See</i> claim 1. <b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. <i>See, e.g.,</i> Snell at 1:55-57, 2:27-30, 2:61-63, 6:35-36, 6:52-59, 6:64-66, 7:1-2, 7:5-14, Fig. 3; Harris 4064.4 at 15-16, Fig. 10.; Kamerman at</b></p>	<p>[In its ‘114 Petition, Samsung broke claim 2 into [2a] &amp; [2b].]</p> <p>[2.a]:</p> <p>APA teaches transmission of multiple sequences. <i>See</i> Figure 2. <i>See also</i> Ex. 1201 (APA), 4:4-50. An exemplary “third sequence” is training sequence 48 in Fig. 2.</p> <p>Boer also teaches transmission of multiple sequences. Ex. 1204, 1:33-40 (“Therefore, according to the present invention,</p>

	<p><b>6, 11, 12.</b></p> <p>For example, Snell discloses a transceiver for transmitting data packets to another transceiver, where the communication may switch on-the-fly between different types of modulation methods.</p> <p>"The modulator may also preferably include header modulator means for modulating <i>data packets</i>." Snell at 2:61-63.</p> <p>"The PRISM 1 chip set provides all the functions necessary for full or half duplex, direct sequence spread spectrum, <i>packet communications</i> at the 2.4 to 2.5 GHz ISM radio band." Snell at 1:55-57.</p> <p>"It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and <i>which may switch on-the-fly between different data rates and/or formats</i>." Snell at 2:27-30.</p> <p>"The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and <i>while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly</i>." Snell at 7: 10-14.</p> <p>Snell also discloses that the</p>	<p>there is provided a method of operating a <b>wireless local area network station adapted to transmit and receive messages at a plurality of data rates</b>, wherein said messages include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...").</p> <p>A subsequent transmission of SIGNAL 206 and SERVICE 208 fields would be a "third sequence."</p> <p>[2b]:</p> <p><u>"The Third Sequence Is Transmitted In The First Modulation Method:"</u></p> <p><i>See e.g.</i> Ex. 1204, 3:56-58 ("With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation."). <i>See also</i> claim element [1h].</p> <p><u>"Indicates That Communication From The Master To The Slave Has Reverted To The First Modulation Method:"</u></p> <p>Ex. 1204, Abstract, ("All</p>
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"SIGNAL" field in the header of the packet is modulated in a first modulation method and indicates the modulation type (e.g., BPSK or QPSK, or alternatively, DBPSK or DQPSK) used for modulating the MPDU data portion. See Element 1.D.



Snell at Fig. 3 (annotated).

**Kamerman discloses reverting from a second modulation method to a first modulation method. See, e.g., Kamerman at 6, 11, 12.**

Kamerman discloses an automatic rate selection scheme for reverting (e.g., falling back) from a "second modulation method" (e.g., QPSK) corresponding to a higher data rate (e.g., 2 Mbit/s) to a "first modulation method" (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet transmissions, for instance, where there is a high load in neighbor cells causing cochannel interference.

transmitted messages start with a preamble and header at the 1 Mbps rate. **The header includes fields identifying the data rate for the data portion of the message**, and a length field. For a 2 Mbps transmission the length field identifies the number of bytes in the data field. For a 5 or 8 Mbps the length field identifies the number of bytes in the data field which, if transmitted at 2 Mbps, would take the same transmission time of the data field, and is thus a fraction 2/5 or 2/8 of the actual number of the bytes.”);

2:6-15 (“Referring first to FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented. The LAN 10 includes an access point 12, which serves as base station, and is connected to a cable 14 which may be part of a backbone LAN (not shown), connected to other devices and/or networks with which stations in the LAN 10 may communicate. **The access point 12 has antennas 16 and 17 for transmitting and receiving messages over a wireless communication channel.**”);

3:56-62 (“With regard to

	<p>"Then there is looked to <i>automatic rate control</i> to keep the cochannel interference at a tolerable level." Kamerman at 6.</p> <p>"IEEE 802.11 DS specifies bit rates of 1 and 2 Mbps. The allowable SNR and CSIR values for reliable transmission of data packets are dependent on the bit rate." Kamerman at 11.</p> <p>"IEEE 802.11 DS specifies BPSK and QPSK, in addition there could be applied proprietary modes with M-PSK and QAM schemes that provide higher bit rates by encoding more bits per symbol. ... An automatic rate selection scheme based on the reliability of the individual uplink and downlink could be applied. The basic rate adaptation scheme could be: <i>after unacknowledged packet transmissions the rate falls back, and after a number (e.g. 10) of successive correctly acknowledged packet transmissions the bit rate goes up.</i>" Kamerman at 11.</p> <p><i>"At lower load in the neighbor cells the highest bit rate can be used more often. At higher load the transmissions from the accesspoint to stations at the outer part of the cells, will be done often at fallback rates due to mutilation of</i></p>	<p>the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. <b><u>The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.</u></b>");</p> <p>4:4-11 ("The <b><u>SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate</u></b> and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.");</p> <p>Fig. 7;</p> <p>7:41-51 ("Returning to block 508, <b><u>if an ACK message is not received correctly</u></b> and within the predetermined time interval, then the flowchart proceeds to block 522 where the SC count value is reset to zero and <b><u>the</u></b></p>
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	<p><i>transmissions by interference. In practice the network load for LANs at nowadays client-server applications is very bursty, with sometimes transmission bursts over an individual links and low activity during the major part of the time. Therefore the higher bit rate can be used during the most of the time, and at high load in the neighbor cells (as will evoked by test applications) there will be switched to fall back rates in the outer part of the cell."</i> Kamerman at 11.</p> <p>"The application of proprietary bit rates of 3 and 4 Mbps in addition to the basic 1 and 2 Mbps, can be combined with an automatic rate selection. This automatic rate selection gives fall forward at reliable connections and <i>fall back at strong cochannel interference.</i>" Kamerman at 12.</p>	<p><b><u>data rate is decremented</u></b> (if the minimum data rate is not already being used)..."); and</p> <p>8:6-9 ("If a station 22 doesn't receive the expected ACK message in return correctly and in due time, it will retransmit the original message packet at a lower data rate.").</p>
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'580 Patent Claim 59	Samsung's Argument in the '808 Reexamination	Samsung's Argument in the '114 IPR
58.[preamble] A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to	<b>To the extent this preamble is considered a limitation of the claim, Snell discloses a communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master</b>	[58a]:  <u>For a communication system that communicates according to a master/slave relationship, see Ex. 1201 (APA), Figs. 1 &amp; 2; 3:6-10 ("FIG. 1 is a block diagram of a prior art multipoint communication system</u>

<p>a master message from the master to the slave, the device comprising:</p>	<p><b>occurs in response to a master message from the master to the slave.</b></p> <p><i>See</i> Element 1.preamble.</p>	<p>including a master transceiver and a plurality of tributary transceivers.”); and</p> <p>3:40-44 (“With reference to FIG. 1, a prior art multipoint communication system 22 is shown to comprise a master modem or transceiver 24, which communicates with a plurality of tributary modems (tribs) or transceivers 26-26 over communication medium 28.”).</p> <p><u>For master/slave relationship, see</u> Ex. 1201 (APA), 4:4-9 (“This system uses polled multipoint communication protocol. That is, a master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.”).</p> <p>Boer discloses a communication system. <i>See e.g.</i> Ex. 1204, Figs. 1-3 and 8.</p>
<p>[58.A] a transceiver, in the role of the master according to the master/ slave relationship,</p>	<p><b>Snell discloses a transceiver, in the role of the master according to the master/ slave relationship.</b></p> <p><i>See</i> Element 1.A</p>	<p>[[58b] addresses the claim language included in [58.A] &amp; [58.B] in Samsung’s ‘580 Reexam Request (pp. 60-61).]</p> <p>[58b]:</p> <p>APA demonstrates master transceivers are in prior art.</p>

		<p>See claim element [1a].</p> <p><u>For Boer’s teachings regarding “transceivers, See e.g. Ex. 1204, Figures 1-3, 8;</u></p> <p>2:6-22 (“Referring first to FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented. The LAN 10 includes an access point 12, which serves as base station, and is connected to a cable 14 which may be part of a backbone</p> <p>LAN (not shown), connected to other devices and/or networks with which stations in the LAN 10 may communicate. The access point 12 has antennas 16 and 17 for transmitting and receiving messages over a wireless communication channel. The network 10 includes mobile stations 18, referred to individually as mobile stations 18-1, 18-2, and having antennas 20 and 21, referred to individually as antennas 20-1, 20-2 and 21-1, 21-2. The mobile stations 18 are capable of transmitting and receiving messages selectively at a data rate of 1 Mbps (Megabit per second) or 2 Mbps, using DSSS (direct sequence spread spectrum) coding.”);</p> <p>2:34-37 (“Also included in</p>
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		<p>the LAN 10 are further mobile stations 22, referred to individually as stations 22-1 and 22-2, and having antennas 24 and 25, referred to individually as antennas 24-1, 24-2 and 25-1, 25-2.”)</p> <p><u>Transmitting using at least two types of modulation methods:</u></p> <p><i>See e.g.</i> Ex. 1204, Abstract (“A wireless LAN includes first stations adapted to operate at a 1 or a 2 Mbps data rate and second stations adapted to operate at a 1,2,5 or 8 Mbps data rate. The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation.”);</p> <p>2:23-27 (“When operating at the 1 Mbps data rate, DBPSK (differential binary phase shift keying) modulation of the RF carrier is utilized, and when operating at the 2 Mbps data rate DQPSK (differential quadrature phase shift keying) modulation of the RF carrier is utilized.”); and</p> <p>2:37-44 (“The stations 22 can operate at a 1 Mbps or a 2 Mbps data rate, using the same modulation and DSSS coding as the stations 18, and in addition can also operate at two higher data</p>
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		rates, namely 5 Mbps and 8 Mbps. These 5 and 8 Mbps data rates utilize PPM/DQPSK (pulse position modulation-- differential quadrature phase shift keying) in combination with the 11-chip Barker code mentioned hereinabove.”).
[58.B] capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method,	<b>Snell discloses transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method.</b>  <i>See</i> Element 1.B.	[[58c] and [58d] address the claim language in [58.B] in the ‘580 Reexam Request. [58b] is quoted above.]  [58c]:  In Boer, DBPSK is the “first modulation method.” Both DQPSK and PPM/DQPSK can be the “second modulation method.” See claim element [1b].  [58d]:  DBPSK modulation is a different “type” of modulation than either DQPSK or PPM/DQPSK. See claim element [1b].
[ 58.C] and wherein the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is	<b>Snell discloses that the transceiver is configured to transmit messages with: a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second</b>	[58e], [58f], & [58g] address the claim language in [58.C] in the ‘580 Reexam Request.  [58e]:  Both APA and Boer teach transceivers that transmit messages. <i>See</i> Ex. 1201 (APA), Fig. 1; 4:4-9 (“This

<p>used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and</p>	<p><b>sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method.</b></p> <p><i>See</i> Elements 1.C, 1.D, 1.F.</p>	<p>system uses polled multipoint communication protocol. That is, a master controls the initiation of its own transmission to the tribes and permits transmission from a tribe only when that tribe has been selected.”). <i>See e.g.</i>, Ex. 1204, Fig. 4;</p> <p>(Abstract) (“All transmitted messages start with a preamble and header at the 1 Mbps rate.”);</p> <p>1:33-37 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion...”);</p> <p>3:42-43 (“Referring now to FIG. 4, there is shown the format of a typical message 200 used in the LAN 10.”)</p> <p>3:56-65 (“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed</p>
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		<p>hereinabove. Of course, the stations 18 are capable of transmitting at the 1 and 2 Mbps rates only, whereas the stations 22 can transmit the DATA field 214 at a selected one of the four data rates.”).</p> <p>[58f]:</p> <p><i>See e.g.</i> Ex. 1204, Abstract (“The header includes fields identifying the data rate for the data portion of the message, and a length field.”);</p> <p>4:4-11 (“The SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.”); and</p> <p>6:5-17 (“In a station 22 which is to transmit a message, the C- MST 132 inserts the preamble 216 and header 218... The rate selector 142 uses the SIGNAL and SERVICE fields 206, 208 to decide whether or not the encoder 146 should switch to the 2,</p>
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		<p>5 or 8 Mbps modes. If rate switching is to take place, then after the last bit of the header 218 has passed through, the rate selector 142 provides a control signal to the encoder, to switch from operation in the 1 Mbps DBPSK mode to the 2 Mbps DQPSK mode, 5 Mbps PPM/QPSK mode or the 8 Mbps PPM/QPSK mode, whereby the DATA field 214 is encoded in the selected manner.”</p> <p>The SIGNAL 206 and SERVICE 208 fields in Boer are the “first sequence.”</p> <p>[58g]:</p> <p>Because the SIGNAL 206 and SERVICE 208 fields indicate what type of modulation the DATA field 214 field will be transmitted with, they “indicate[] an impending change from the first modulation method to the second modulation method.” <i>See</i> claim element [58f].</p> <p>For “at least one message is addressed for an intended destination of the second sequence,” <i>see</i> Ex. 1204, 6:28-31 (“The C-MST 132 determines if an incoming message is addressed to its own station, using a destination address included in the DATA field 214 of the message 200.”).</p>
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<p>[58.D] wherein the at least one message is addressed for an intended destination of the second sequence, and</p>	<p><b>Snell in view of Yamano discloses that at least one message is addressed for an intended destination of the second sequence.</b></p> <p><i>See Element 1.E.</i></p>	<p>[[58g] also addresses the claim language in [58.D] in the ‘580 Reexam Request and is quoted directly above.]</p>
<p>[58.E] the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence IS transmitted after the first sequence.</p>	<p><b>Snell discloses that the second sequence [is] modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.</b></p> <p><i>See Element 1.G.</i></p>	<p>[[58h] &amp; [58i] address the claim language in [58.E] in the ‘580 Reexam Request.]</p> <p>[58h]:</p> <p>Boer teaches that data (the “second sequence”) within DATA field 214 can be modulated using the second type of modulation method (DQPSK or PPM/DQPSK) when the SIGNAL 206 and SERVICE 208 fields so indicate. Ex. 1204, 1:33-47, 3:56-62, 4:4-11 &amp; 6:5-21. Each citation is quoted above.</p> <p>[58i]:</p> <p>Figure 4 in Boer shows the DATA field 214 (i.e., the recited “second sequence”) being transmitted after SIGNAL field 206 and SERVICE field 208 (the recited “first sequence”). <i>See also</i> Ex. 1204, 3:56-62 (“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The <b>subsequent DATA field 214</b>, however, may be</p>

		<p>transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.”).</p>
<p>59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence IS transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</p>	<p><b>Snell in view of Kamerman discloses that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.</b></p> <p><i>See</i> claims 1, 2.</p>	<p>“Transceiver Is Configured To Transmit A Third Sequence After The Second Sequence :”</p> <p>APA teaches transmission of multiple sequences. <i>See</i> Figure 2. <i>See also</i> Ex. 1201 (APA), 4:4-50. An exemplary “third sequence” is training sequence 48 in Fig. 2.</p> <p>Boer also teaches transmission of multiple sequences. Ex. 1204, 1:33-40 (“Therefore, according to the present invention, there is provided a method of operating a <u>wireless local area network station adapted to transmit and receive messages at a plurality of data rates</u>, wherein said messages include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...”).</p> <p>A subsequent transmission of SIGNAL 206 and SERVICE 208 fields within Header 218 would be a</p>

		<p>“third sequence.”</p> <p><u>“The Third Sequence Is Transmitted In The First Modulation Method:”</u></p> <p><i>See e.g.</i> Ex. 1204, 3:56-58 (“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation.”). <i>See also</i> claim element [1h].</p> <p><u>“Indicates That Communication From The Master To The Slave Has Reverted To The First Modulation Method:”</u></p> <p>Ex. 1204, Abstract, (“All transmitted messages start with a preamble and header at the 1 Mbps rate. <b><u>The header includes fields identifying the data rate for the data portion of the message</u></b>, and a length field. For a 2 Mbps transmission the length field identifies the number of bytes in the data field. For a 5 or 8 Mbps the length field identifies the number of bytes in the data field which, if transmitted at 2 Mbps, would take the same transmission time of the data field, and is thus a fraction 2/5 or 2/8 of the actual number of the bytes.”);</p> <p>2:6-15 (“Referring first to</p>
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		<p>FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented. The LAN 10 includes an access point 12, which serves as base station, and is connected to a cable 14 which may be part of a backbone LAN (not shown), connected to other devices and/or networks with which stations in the LAN 10 may communicate. <b><u>The access point 12 has antennas 16 and 17 for transmitting and receiving messages over a wireless communication channel.</u></b>”);</p> <p>3:56-62 (“With regard to the message 200, FIG. 4, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. <b><u>The subsequent DATA field 214, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.</u></b>”);</p> <p>4:4-11 (“The <b><u>SIGNAL field 206 has a first predetermined value if the DATA field 214 is transmitted at the 1 Mbps rate</u></b> and a second predetermined value if the</p>
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		<p>DATA field 214 is transmitted at the 2, 5 or 8 Mbps rates. The SERVICE field 208 has a first predetermined value (typically all zero bits) for the 1 and 2 Mbps rates, a second predetermined value for the 5 Mbps rate and a third predetermined value for the 8 Mbps rate.”);</p> <p>Fig. 7;</p> <p>7:41-51 (“Returning to block 508, <b><u>if an ACK message is not received correctly</u></b> and within the predetermined time interval, then the flowchart proceeds to block 522 where the SC count value is reset to zero and <b><u>the data rate is decremented</u></b> (if the minimum data rate is not already being used)....”); and</p> <p>8:6-9 (“If a station 22 doesn't receive the expected ACK message in return correctly and in due time, it will retransmit the original message packet at a lower data rate.”).</p>
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## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808			
<b>Filing Date:</b>	12-Sep-2016			
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS			
<b>First Named Inventor/Applicant Name:</b>	8023580			
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington			
<b>Attorney Docket Number:</b>	3277-0114US-RXM1			
Filed as Large Entity				
<b>Filing Fees for ex parte reexam</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
PETITION IN REEXAM PROCEEDING	1824	1	1940	1940
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>1940</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	30397364
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	18-SEP-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:51:58
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PetitionReqReconsideration.pdf	2033804  <small>3b3976ca8fc77711d248c652fcd1fad946b8ca79</small>	yes	45

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Receipt of Petition in a Reexam			1	44	
Reexam Certificate of Service			45	45	
<b>Warnings:</b>					
<b>Information:</b>					
2	Reexam Miscellaneous Incoming Letter	Exhibit1.pdf	32255	no	3
			a178a44cb09b113b798fe0e01266e43875a0147		
<b>Warnings:</b>					
<b>Information:</b>					
3	Reexam Miscellaneous Incoming Letter	Exhibit2.pdf	51697	no	6
			ccdabd2c5e445e4e4ec20c09bd6f28f9a9cf9d9fb6		
<b>Warnings:</b>					
<b>Information:</b>					
4	Reexam Miscellaneous Incoming Letter	Exhibit3.pdf	407593	no	37
			9143993385c6e3104f1316b9f9260a6e8042b5f1		
<b>Warnings:</b>					
<b>Information:</b>					
5	Fee Worksheet (SB06)	fee-info.pdf	30662	no	2
			7146d9ea5ea3d833cc14d37d3ea9f255b7c38ce		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			2556011		

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Ex Parte Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop "Ex Parte Reexam"  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING TERMINATION OF GROUNDS OF REJECTION  
PURSUANT TO 37 C.F.R. § 1.181**

Rembrandt Wireless Technologies, LP (hereinafter "Patent Owner") respectfully submits that at least some of the grounds of rejection pending in Reexamination Control No. 90/013,808 (hereinafter the "'808 reexamination") must be terminated as being outside the authority granted to the Office by Congress. Specifically, some of the grounds of rejections set forth in the '808 reexamination are based upon references (*i.e.*, the Harris 1064.4 and Harris AN9614 documents) which under the Office's own reasoning cannot be considered prior art printed publications. As *ex parte* reexamination is limited to substantial new questions raised by prior art printed publications (*see, e.g.*, 35 U.S.C. §§ 301, 302) continuing reexamination on these grounds is an *ultra vires* action that must be terminated. *Ethicon, Inc. v. Quigg*, 849 F. 2d 1422, 1427 (Fed. Cir. 1988) ("The Commissioner, on the other hand, has no inherent authority, only that which

Congress gives." ).<sup>1</sup> As all of the currently pending grounds of rejection rely on one or more of the Harris documents,<sup>2</sup> Patent Owner respectfully submits that continuing the present reexamination is beyond the Office's authority. Accordingly, Patent Owner respectfully requests termination of the '808 reexamination.

### **Statement of Facts**

- 1) On September 12, 2016, Samsung Electronics America, Inc. (hereinafter "Requester") filed a Request for *Ex Parte* Reexamination of U.S. Patent No. 8,023,580 (hereinafter "Request"). Set forth in the Request were alleged substantial new questions of patentability based in part on U.S. Patent No. 5,982,807 to Snell (hereinafter "Snell"), as well as Harris 1064.4 and Harris AN9614 (collectively the "Harris documents").
- 2) In the Request, Requester alleged that the inclusion of the Harris documents on an information disclosure statement submitted during the prosecution of Snell and an attempted

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<sup>1</sup> Patent Owner further notes that the current request is timely. The Office only has that authority granted to it by Congress. *Ethicon, Inc. v. Quigg*, 849 F. 2d 1422, 1427 (Fed. Cir. 1988). Here, where the Office is acting *ultra vires*, a Patent Owner may not grant the Office through waiver the authority to continue with a proceeding for which it was never granted authority to undertake by Congress. Furthermore, the clear legal errors on the part of the Office only came to light in the Final Office Action, which was mailed on July 18, 2017.

<sup>2</sup> Currently pending in the '808 reexamination are the following grounds of rejection: claims 2 and 59 have been rejected under 35 U.S.C. § 102 as allegedly being anticipated by Snell; claims 2 and 59 have been rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Snell in view of U.S. Patent No. 6,075,814 to Yamano et al. (hereinafter Yamano); and claims 2 and 59 have been rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Snell in view of Yamano in further view of Kamerman, A., "Throughput Density Constraints for Wireless LANs Based on DSSS," IEEE 4th International Symposium on Spread Spectrum Techniques 20 and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol.3 (hereinafter "Kamerman"). The grounds under § 103 explicitly rely on teachings contained in the Harris documents. See, e.g., FOA at 7-15. The ground under § 102 relies on Harris AN9614 for the reasons explained on pages 28-29 of the FOA. Specifically, the Examiner relies on the teachings of Harris AN9614 to teach the "master/slave relationship" features of claims 2 and 59. *Id.*



incorporation by reference of the Harris documents by Snell rendered the Harris documents publicly accessible printed publications. Request at 29-31.

- 3) On September 27, 2017, the Office issued an Order granting reexamination of claims 2 and 59 of the '580 patent.
- 4) The order granting reexamination of claims 2 and 59 alleged that the Harris documents are prior art, but did not address the public accessibility of the documents.
- 5) On March 31, 2017, the Office issued a Non-Final Office Action.
- 6) The Non-Final Office Action did not address the public accessibility of the Harris documents.
- 7) On June 30, 2017, Patent Owner filed a Reply to the Non-Final Office Action (hereinafter "Reply"). The Reply included arguments challenging the status of the Harris documents as printed publications. Reply at 55-69.
- 8) On July 18, 2017, the Office issued a Final Office Action.
- 9) The Final Office Action did not address Patent Owner's argument that the Harris documents have not been shown to be prior art printed publications, as is legally required under the patent laws, i.e., they must be accessible to the relevant public. Final Office Action at 23-25.
- 10) The Final Office Action presented clearly erroneous arguments allegedly in support of the proposition that the Harris documents are prior art printed publications. *Id.* Those arguments included one based on 37 CFR § 1.11-- a regulation that did not exist at the relevant time. According to the Final Office Action:

37 CFR 1.11 states:

- (a) The specification, drawings, and all papers relating to the file of: A

published application; a patent; or a statutory invention registration are open to inspection by the public, and copies may be obtained upon the payment of the fee set forth in § 1.19(b)(2).

In other words, as long as the documents, i.e., Harris AN9614 and Harris 4064.4, were provided by Snell at the time the application was filed, these documents are publicly accessible and incorporation by reference is reasonable.

FOA, at 23-24. In fact, at the time Snell was filed, there was no mechanism for publishing applications and, in any event, Snell was not published prior to its issuance. Thus, the Examiner's reliance on 37 CFR 1.11 is plainly wrong.

**The Burden Rests with the Challenger to Present a *Prima Facie* Showing that a Reference was Publicly Accessible**

As a threshold matter, Patent Owner notes that the challenger of the patent, be that the Patent Office or a requester for reexamination, bears the burden of making a *prima facie* showing that a reference is publicly accessible before it may be used as a "printed publication." *See, e.g., In re Lister*, 583 F. 3d 1307, 1317 (Fed. Cir. 2009); *see also In re Hall*, 781 F. 2d 897, 899 (Fed. Cir. 1986) ("The **proponent of the publication bar** must show that prior to the critical date the reference was sufficiently accessible, at least to the public interested in the art, so that such a one by examining the reference could make the claimed invention without further research or experimentation.") (emphasis added). As will be shown through the following discussion, neither the Office nor the Requester has met this burden.

**Neither the Requester Nor the Examiner has Presented a *Prima Facie* Showing that the Harris Documents were Publicly Accessible**

Both Requester and the Examiner have presented arguments alleging to show the public accessibility of the Harris documents. *See, e.g.,* Final Office Action (hereinafter "FOA") at 23-25. The Requester's and the Examiner's arguments are fundamentally flawed and contrary to the Office's own rules and regulations setting forth the evidence that constitutes a sufficient showing

of public accessibility. The arguments by Requester and the Examiner are as follows, all of which are insufficient to prove the public accessibility of a reference:

- It has been argued that an attempted incorporation by reference of the Harris documents into the Snell disclosure renders the Harris documents prior art and publicly accessible. FOA at 23-25.
- It has been argued that the submission of the Harris documents on an information disclosure statement during the prosecution of the Snell reference proves the public accessibility of the references. FOA at 24; *see also* Request for Reexamination (hereinafter "Request") at 29.
- It has been argued that the inclusion of the Harris documents in the file wrapper for the Snell reference renders the documents publicly accessible as of the filing date of the Snell applications. *Id.* at 25.
- It has been argued that an alleged copyright date on the Harris documents proves the publicly accessibility of the documents. FOA at 25.

Each of these arguments runs counter to the definitive rules, regulations and decisions of the Office. Therefore, the Office must find that the Harris documents have not been shown to be prior art printed publications, and the '808 reexamination must be terminated, at least with regard to any ground which relies upon the Harris documents. Any other outcome results in the Office acting beyond its authority.

***A. The Alleged Incorporation by Reference of the Harris Documents is Insufficient to Prove their Public Accessibility***

In the FOA and the Request it is alleged that the Snell reference's attempt to incorporate the Harris documents by reference is sufficient to render the documents publicly accessible. *Id.*

at 23-25; *see also* Request at 29-30. The Examiner goes so far as to argue that "As long as at the time of application of Snell, the documents of Harris were provided by Snell, then the material in Harris documents can be incorporated by reference into the application of Snell." FOA at 24. The Examiner and Requester make clear errors regarding which type of documents may be incorporated by reference. Only publicly accessible documents may be incorporated by reference. Accordingly, the Examiner and Requester cannot rely on a document's alleged incorporation by reference to prove its public accessibility when public accessibility is a prerequisite for incorporation by reference. Furthermore, even if it is assumed *arguendo* that incorporation by reference may be used to render a document publicly accessible, the attempt to incorporate the Harris documents into Snell lacked the required "detailed particularity" for incorporation by reference.

*i. The Harris Documents Could Not be Incorporated by Reference into the Snell Reference*

It is established law that only publicly available documents may be incorporated by reference. *General Electric Co. v. Brenner*, 407 F.2d 1258, 1262, 159 USPQ 335, 338 (D.C.Cir.1968) ("[R]eference to a disclosure which is available to the public is permissible.") (emphasis added); *In re Heritage*, 182 F.2d 639, 643, 86 USPQ 160, 164 (CCPA 1950). This requirement that any incorporated reference be publicly available is reflected in 37 C.F.R. § 1.57 which limits the incorporation by reference of non-essential material to U.S. patents, U.S. patent application publications, foreign patents, foreign published applications, prior and concurrently filed commonly owned U.S. applications, or non-patent publications. This requirement presents a fatal flaw in the Examiner's argument that the incorporation by reference of the Harris documents into the Snell reference renders the Harris documents publicly accessible prior art

(i.e., renders them a prior art printed publication): if only publicly accessible documents may be incorporated by reference, the Examiner cannot rely on the incorporation by reference of the Harris documents to render them publicly accessible. That is, the incorporation by reference of the Harris documents cannot render them publicly accessible, as the Harris documents would have had to be publicly accessible prior to their incorporation by reference. They were not.

In the FOA, the Examiner argues that nothing in 37 C.F.R. § 1.57(e) "requires the non-patent publications be public accessible" in order for them to be incorporated by reference into a patent application. FOA at 25. This assertion simply highlights the clear errors in the Examiner's reasoning and her misunderstanding of the issues before her. The Office implemented 37 C.F.R. § 1.57 to codify the limits of incorporation by reference as laid out in the *General Electric* case. See 69 Fed. Reg. 56482, 56501 citing *General Electric Co. v. Brenner*, 407 F.2d 1258, 159 USPQ 335 (D.C.Cir.1968). As discussed above, the *General Electric* case limits the Director's authority to incorporate documents by reference to "disclosure[s] which [are] available to the public." *General Electric Co. v. Brenner*, 407 F.2d 1258, 1262, 159 USPQ 335, 338 (D.C.Cir.1968). Accordingly, 37 C.F.R. § 1.57 clearly adopts the legal meaning of "publication," which requires "public accessibility." See, e.g., *In re Wyer*, 655 F.2d 221, 26 (C.C.P.A. 1981) ("In any event, interpretation of the words 'printed' and '**publication**' to mean 'probability of dissemination' and '**public accessibility**,' respectively") (emphasis added).

Put differently, the Examiner and the Requester have placed the "cart before the horse" with regard to public accessibility and incorporation by reference of documents. As stated in the *General Electric* decision, "incorporation by reference has a home in patent cases *provided that any reference made is to that which is available to the public.*" *General Electric Co. v. Brenner*, 407 F.2d 1258, 1262, 159 USPQ 335, 338 (D.C.Cir.1968) (emphasis original). A document

must be publicly accessible *before* it is incorporated by reference; incorporation by reference cannot be relied upon to render a document publicly available. Incorporation by reference is permissible only to the extent that previously publicly accessible documents may be incorporated by reference. Incorporation by reference is not a tool by which an applicant may render publicly accessible an otherwise inaccessible document. The Examiner's interpretation would, in effect, write 37 C.F.R. § 1.57 out of the law.

ii. *The Attempted Incorporation by Reference of the Harris Documents Lacked the Required "Detailed Particularity" to Incorporate the Harris Documents*

Patent Owner further notes that even if it is assumed *arguendo* that an incorporation by reference of the Harris documents could have rendered them publicly accessible, the attempt in the Snell reference to incorporate the Harris documents fails to meet the requirements for an incorporation by reference. "To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents." *Advanced Display Systems, Inc. v. Kent State University*, 212 F.3d 1272 (Fed.Cir. 2000) (citing *In re Seversky*, 474 F.2d 671, 674 (CCPA 1973); *In re Saunders*, 444 F.2d 599, 602–03 (CCPA 1971); *Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1376 (Fed.Cir.2006)). Snell does not identify at all (and certainly not "with detailed particularity") the information in the Harris documents relied on by the Examiner. Snell at 5:2-17. For example, Snell does not identify the "polled scheme" in Harris AN9614 that is alleged by the Examiner to correspond to or suggest the claimed "master/slave relationship." Instead, Snell identifies:

Various filters 36, and the illustrated voltage controlled oscillators 37 may also be provided as would be readily understood by those skilled in the art and as further described in the Harris PRISM 1 chip set literature, such as the application

note No. AN9614, March 1996, the entire disclosure of which is incorporated herein by reference.

...

The conventional Harris PRISM 1 chip set includes a low data rate DSS baseband processor available under the designation HSP3824. This prior baseband processor is described in detail in a publication entitled "Direct Sequence Spread Spectrum Baseband Processor, March 1996, file number 4064.4, and the entire disclosure of which is incorporated herein by reference.

*Id.* (emphasis added).

Snell's attempt to incorporate by reference the Harris documents in their entirety does not remedy the situation because the Office has repeatedly rejected attempts to incorporate by reference documents in their entirety. For example. In *Ex parte Koppolu*, the PTAB explained the rationale for prohibiting applicants from incorporating entire documents without an explanation of what they are being on relied on to show:

[B]y permitting applicants to incorporate by reference entire documents without an explanation of what they are being relied on to show would invite the wholesale incorporation by reference of large numbers of documents and correspondingly increase the burden on examiners, the public, and the courts to determine the metes and bounds of the application disclosures.

For the foregoing reasons, we will apply the law on incorporation by reference as stated in *Advanced Display* and repeated in *Cook Biotech*.

Appellants' argument that MPEP § 2163.07(b) "expressly authorizes the incorporation by reference of an entire document," ... is unconvincing because an incorporation by reference must satisfy the specificity requirement of *Advanced Display*. [2005 WL 4806276 (BPAI 2005) (emphasis added).]

*See, e.g., Oxford Nanopore v. Univ. of Washington*, 2014 WL 4644357 (PTAB 2014) ("In the instant case, although Petitioner urges that Akeson incorporates by reference the disclosure at column 13, lines 10-13 of the '782 patent, the Petition does not direct us to any express or specific disclosure in Akeson mentioning that passage with detailed particularity. ... Nor does the Petition direct us to any clear or specific disclosure in Akeson suggesting that Akeson sought

to incorporate by reference any teachings in the '782 patent as to the physical properties Akeson required of its nanopores. ... Accordingly, we are not persuaded that the Petition has shown that, because Akeson incorporates the '782 patent as a whole by reference, among many other references, Akeson in effect can be considered as positively teaching the subject matter disclosed at column 10, lines 10-13 of the '782 patent." (citations omitted)); *Ex parte Carlucci*, 2012 WL 4718549 (BPAI 2012) (rejecting assertion that blanket incorporation by reference was effective to incorporate transparent characteristic of Ahr '045's apertured film).

Accordingly, despite Snell's attempt to incorporate by reference "the entire disclosure" of the Harris documents, such an incorporation is insufficient to meet the requirements of *Advanced Display Systems*, and therefore, Snell has not incorporated the relevant portions of the Harris documents by reference. Therefore, any reliance on the incorporation by reference to render the Harris documents publicly accessible must fail.

***B. Inclusion of the Harris Documents in an Information Disclosure Statement During Prosecution of the Snell Patent is Insufficient to Show the Harris Documents were Publicly Accessible Prior to the filing date of the '580 Patent***

It is further argued by the Examiner that the citation of the Harris documents on an information disclosure statement during the prosecution of the Snell patent shows the public accessibility of the Harris documents. Request at 29. The Office's own rules and regulations confirm that the inclusion of a document in an information disclosure statement is insufficient to show the public accessibility of the document. *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F. 3d 860, 866 (Fed. Cir. 2010) ("We agree that ResQNet did not convert these manuals into printed publication prior art by including them with the IDS submitted to the PTO."); *see also* MPEP § 2129(IV) (citing *Riverwood Int'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354-55 (Fed Cir. 2003) (listing of applicant's own prior patent in an IDS does not make it available as prior art



absent a statutory basis). *See also* 37 CFR § 1.97(h) (“The filing of an information disclosure statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in § 1.56(b).”). This is particularly true under the present facts as the application that matured into the Snell patent was assigned to Harris Corporation during the prosecution of the application. Snell at p. 1. Harris Corporation is also the source of the Harris documents. Harris 10644 at p. 1; Harris AN9614 at p. 1. The inclusion of one's own work on an IDS is not an indication that that work is or was *publicly* accessible, it is only an indication that the *assignee* was aware of the work. *See, e.g.*, MPEP 2129.

The Office's own decision in *Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457 (PTAB Mar. 19, 2015) (Paper 9) addressed the exact factual scenario presented herein, and correctly concluded that the cited document was *not* rendered publicly accessible by its inclusion in an IDS:

Patent Owner argues that the citation of the HDMI Specification in an IDS filed in the prosecution of U.S. Patent No. 7,940,809 also fails to support Petitioner's position. Patent Owner notes that “[t]he published application from which the '809 patent derives ... does not cite [the HDMI Specification],” and that “U.S. Patent No. 7,940,809 was not granted until 2011, long after the priority date of the '182 patent.” Patent Owner elaborates that Petitioner does not explain how submission of a document in an IDS of an unpublished, ungranted patent application demonstrates public accessibility of the document, noting that Petitioner does not identify any way that an interested person could or would have located the document submitted in the IDS of an unpublished, ungranted patent application. Patent Owner argues that “the mere apparent possession of the specification by the assignee [of the unpublished, ungranted patent application]—a single company—does not demonstrate the document's **public** availability.”

...

We are persuaded that Petitioner has not demonstrated the public accessibility of the HDMI Specification. For the reasons explained by Patent

Owner, the evidence cited by Petitioner facially fails to demonstrate the public accessibility of the document prior to the effective filing date of the '182 patent.

*Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457, slip op. at 26–28 (PTAB Mar. 19, 2015) (Paper 9) (citations and footnotes omitted, emphasis in original).

Just as in the *Microsoft* case, the Snell reference issued after the priority date for the '580 patent. Accordingly, the Examiner has failed to demonstrate the public accessibility of the documents prior to the effective filing date of the '580 patent, and therefore, under the Office's own rules, regulation and decisions, the Harris documents are not prior art printed publications to the '580 patent.

***C. The Inclusion of the Harris Documents in the File History of the Snell Patent is Insufficient to Show the Harris Documents were Publicly Accessible Prior to the Filing Date of the '580 Patent***

It is further argued by the Examiner that the inclusion of the Harris documents in the file history for the Snell patent shows the public accessibility of the Harris documents. FOA at 23-25. This reasoning is also flawed. The presence of the Harris documents in the file wrapper for the Snell reference does not render the Harris documents publicly accessible prior to the Snell patent issuing. *See* MPEP § 1120(I) (35 U.S.C. § 122(a)) (“Except as provided in subsection (b),<sup>3</sup> applications for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provisions of an Act of Congress or in such special circumstances as may be determined by the Director.”). Thus, until the Snell patent issued, the interested public would not have known of the Snell application’s existence and would not have known of the existence of the Harris Documents in its file wrapper. The issuance of the Snell patent came

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<sup>3</sup> Section (b) applies only to applications filed on or after November 29, 2000. Thus, section (b) does not apply to Snell, which was filed in 1997.

after the priority date for the '580 patent, and therefore, the Harris documents are not prior art printed publications to the '580 patent.

Furthermore, the *Microsoft* case discussed above also addressed the inclusion of a document in a file wrapper of a patent application. The reference at issue in the *Microsoft* case was not only cited on an IDS, but it was included in the file wrapper for a patent that ultimately issued. *Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457, slip op. at 25 (PTAB Mar. 19, 2015) (Paper 9) ("During the prosecution of this patent, the HDMI Specification v. 1.3a **was submitted** as part of an Information Disclosure Statement to the Patent Office on or about October 5, 2007.") (emphasis added). Nevertheless, the Board determined "that Petitioner [had] not demonstrated the public accessibility of the HDMI Specification." *Id.* at p. 27. Analogously, the Examiner in the '808 reexamination has failed to demonstrate the public accessibility of the Harris documents prior to the effective filing date of the '580 patent. Therefore, under the Office's own rules, regulation and decisions, the Harris documents are not prior art printed publications to the '580 patent.

***D. The Dates included on the Harris Documents are Insufficient to Show the Harris Documents were Publicly Accessible Prior to the Filing Date of the '580 Patent***

The Examiner also relies on ambiguous dates and unregistered copyright notices on the Harris documents as allegedly providing evidence of the prior art status and public accessibility of the references.<sup>4</sup> FOA at 25. This reasoning is also flawed. The "March 1996" and "October 1996" dates on Harris AN9614 and Harris 4064.4, respectively, and their 1996 copyright notices

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<sup>4</sup> The Examiner incorrectly refers to dates on the documents as "publication dates" in the Final Office Action. FOA at 25. There is no evidence or suggestion that these dates are publication dates. Furthermore, the relevant date for public accessibility is the date upon which the document becomes available to the public, not the date a document is created. *See, e.g.*, MPEP §§ 2128.II.B; 2128.02. There is no evidence that the dates contained in the Harris documents indicate a date of public accessibility.

by Harris Corporation are insufficient to establish a date of dissemination or accessibility to “persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence.” *Wyer*, 655 F.2d at 226. A copyright date merely establishes “the date the document was created or printed.” *Ex parte Rembrandt Gaming Technologies, LP*, Appeal 2014-007853, Reexamination Control No. 90/012,379 at 5 (PTAB December 3, 2014) (“the 1993 copyright date in Tequila Sunrise does not show the requisite availability in 1993”); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper No. 13 at 17 (PTAB Aug. 26, 2015) (“we are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date”). In this case, there is no evidence that the copyrighted material was ever registered or that the documents were deposited with the Library of Congress. Lacking such evidence, a copyright notice has little, if any, evidentiary value, and is incapable of proving public accessibility.

### **Conclusion**

As indicated above, under the Office's own rules, regulations and decisions, none of the alleged evidence of public accessibility of the Harris documents prior to the priority date of the '580 patent is sufficient to show the Harris documents are prior art printed publications. Accordingly, the Office must terminate the '808 reexamination as continuing the '808 reexamination is action beyond the authority granted to the Office by Congress. *See, e.g.*, 35 U.S.C. §§ 301, 302; *see also Ethicon, Inc. v. Quigg*, 849 F. 2d 1422, 1427 (Fed. Cir. 1988). Any further action on these grounds by the Office is unlawful *ultra vires* action.

This Petition is timely filed, i.e., within two months of the Final Office action mailed July 18, 2017. To the extent the Office believes any rules prevent consideration of this petition,

Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this Petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: September 18, 2017

By: /Michael V. Battaglia/  
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*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 18th day of September, 2017, the foregoing **PETITION REQUESTING TERMINATION OF GROUNDS OF REJECTION PURSUANT TO 37 C.F.R. § 1.181** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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/Michael V. Battaglia/  
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## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808			
<b>Filing Date:</b>	12-Sep-2016			
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS			
<b>First Named Inventor/Applicant Name:</b>	8023580			
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington			
<b>Attorney Docket Number:</b>	3277-0114US-RXM1			
Filed as Large Entity				
<b>Filing Fees for ex parte reexam</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
PETITION IN REEXAM PROCEEDING	1824	1	1940	1940
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>1940</b>



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	30396279
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	18-SEP-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:16:25
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PetitionReqTermination.pdf	113676  ee543823b96a79be2c154b011a6177caa026d4bd	yes	16

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Receipt of Petition in a Reexam	1	15	
Reexam Certificate of Service	16	16	

**Warnings:**

**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30664	no	2
			72827045d793947786b7dd193bb439ddfc cdf0c8		

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	144340
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Control No.	: 90/013,808	Art Unit	: 3992
Patent No.	: 8,023,580	Examiner	: Yuzhen Ge
Filed	: September 12, 2016	Conf. No.	: 2211
Customer No.	: 06449	Atty. No.	: 3277-114.RXM1

Title: SYSTEM AND METHOD OF COMMUNICATION USING  
AT LEAST TWO MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
Central Reexamination Unit  
Commissioner for Patents  
United States Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO FINAL OFFICE ACTION**

This Response is to the Final Office Action mailed July 18, 2017 (“FOA”). This Response is timely-filed, i.e., within the two-month period from the mailing date of the FOA. Thus, this Response will be construed as including a request to extend the shortened statutory period for an additional two months, i.e., to November 18, 2017, as indicated in the FOA, at 44. *See* MPEP § 2265(VII).



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
90/013,808 09/12/2016 8023580 3277-0114US-RXM1 2211

6449 7590 10/16/2017
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EXAMINER

GE, YUZHEN

ART UNIT PAPER NUMBER

3992

MAIL DATE DELIVERY MODE

10/16/2017

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

ROPES & GRAY LLP

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***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,808.

PATENT NO. 8023580.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Yuzhen Ge

Primary Examiner

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## REEXAMINATION OF U.S. PATENT 8,023,580

### Advisory Action - continued

#### I. ACKNOWLEDGMENTS

On Sep. 12, 2016, a third-party requester (“**Requester**”) filed a request (“**Request**”) for *ex parte* reexamination of claims 2 and 59 of US Patent 8,023,580 (“**580 patent**”) which issued to Bremer. The `580 patent was filed on Aug. 19, 2009 with application number 12/543,910 (“910 application”) and issued on Sep. 20, 2011.

On Sep. 27, 2016, the Office mailed an order (“**Sep 2016 Order**”) granting reexamination of claims 2 and 59 of the `580 patent.

On Mar. 31, 2017, the Office mailed a non-final office action (“**Mar 2017 Non-Final Office Action**”).

On Jun. 30, 2017, the Patent Owner filed a response (“**Jun 2017 Response**”) to the Mar 2017 Non-Final Office action. The Jun 2017 Response includes, among other things, remarks (“**Jun 2017 Remarks**”) and declarations by Robert Aki (“**Jun 2017 Aki Dec**”) under 37 C.F.R. §1.132. No claims has been amended.

On July 18, 2017, the Office mailed a final office action (“**Jul 2017 Final Office Action**”).

On Sep. 18, 2017, the Patent Owner filed an after-final response (“**Sep 2017 PO Response**”) to the July 2017 Final Office Action. The Sep 2017 PO response includes, among other things, remarks (“**Sep 2017 Remarks**”).

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## **II. RESPONSE TO PATENT OWNER'S AFTER-FINAL SUBMISSION**

The Sep 2017 PO Response including Sep 2017 Remarks, has been considered. The Sep 2017 PO Response does not overcome the previous rejections for the reasons that follow, however, for purposes of appeal, it will be entered.

### **New Arguments by the Examiner**

Patent Owner argues:

The Examiner's new arguments introduced in the FOA include: (i) arguing that "Snell inherently teaches" a destination address, FOA at 41-42, (ii) providing a new construction for "different type[s]" of modulation methods, *id.* at 31, (iii) based on the new construction, arguing that "BPSK is a different type of modulation method than QPSK," *id.*, and (iv) arguing that Snell's disclosure that the transceiver can provide an access point for a wireless access point supports the Office's position that the transceiver of Snell is capable of acting as a master in a master/slave relationship. *Id.* at 28, 38 (citing Snell at 1:34-46). ...

--Sep 2017 Remarks, pp. 2-3.

The Examiner would like to point out that the new arguments in the Jul 2017 Final Office Action were set forth based on the new arguments presented by the Patent Owner in the Jun 2017 PO Response. MPEP 706.07(a) states:

Second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims, nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).



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Because no new grounds of rejections are set forth in the Jul 2017 Final Office Action, according to MPEP 706.07(a), the office action mailed on Jul. 18, 2017 can be and was made final.

**Harris AN9614 and Harris 4064.4**

Patent Owner alleges that “the Examiner relies on a regulation that was not in effect at the time of the Snell application and there was no mechanism for publishing applications and, in any event, Snell was not published prior to its issuance .... “ (Patent Owner's Remarks, p. 3-4).

The Examiner disagrees.

37 CFR 1.11 states:

(a) The specification, drawings, and all papers relating to the file of: A published application; a patent; or a statutory invention registration are open to inspection by the public, and copies may be obtained upon the payment of the fee set forth in § 1.19(b)(2).

First, the Patent Owner fails to provide evidence that there was no mechanism for publishing application when Snell was filed and fails to provide evidence the 37 CFR 1.11 was not in effect at the time of the Snell application.

Second, Snell was a prior art reference for the 580 patent under 35 USC 102 (e). According to 102(e)(2), the invention was described in a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent.... Accordingly it does not matter whether the application of Snell was published before the invention or not. To the extent that Snell is a prior art to the 580 patent under 35 USC 102 (e),

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the references incorporated by reference by Snell are also prior art references to the 580 patent under 35 USC 102(e) whether or not Snell was published before issuance.

MPEP 2163.07(b) states:

Instead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the specification. The information incorporated is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed. Replacing the identified material incorporated by reference with the actual text is not new matter. See 37 CFR 1.57 and MPEP § 608.01(p) for Office policy regarding incorporation by reference. See MPEP § 2181 for the impact of incorporation by reference on the determination of whether applicant has complied with the requirements of 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph when 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph is invoked.

In other words, the purpose of incorporation by reference is to avoid repeating some information in another document. At the time of filing of Snell, the Harris documents were available to the Office. Therefore, instead of repeating the material of the Harris documents, incorporation by references of these two documents in the specification of Snell made the specification more concise and is supported by MPEP and the material incorporated by reference in Snell is part of the text of the application of Snell as filed.

Third, 37 CFR 1.57 (e) states:

(e) Other material (“Nonessential material”) may be incorporated by reference to U.S. patents, U.S. patent application publications, foreign patents, foreign published applications, prior and concurrently filed commonly owned U.S. applications, or non-patent publications. An incorporation by reference by hyperlink or other form of browser executable code is not permitted.

Nowhere in the above section requires the non-patent publications be public accessible.

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Further, to the extent that Patent Owner insists the Harris documents should be public accessible, each of the Harris documents has a publication date and copyright information and it was therefore accessible to the pertinent part of the public and available for duplication. In re Wyer 210 USPQ 790.

Based on the above reasons, incorporation by references of Harris publications, i.e., Harris AN9614 and Harris 4064.4, in Snell conforms to MPEP, the references incorporated by reference in Snell are references under 35 USC 102 (e) references and the specification of Snell includes the text of Harris AN9614 and Harris 4064.4 regardless whether Snell application was published or not.

### **Master/Slave Relationship**

Patent Owner alleges that combination of Snell and Harris AN9613 does not suggest a Master/Slave relationship and the presence of a polling protocol neither necessitates nor implies the presence of a master/slave configuration ... (Sep 2017 Remarks, pp. 4-5) and "...an access point, if present, does not poll or control anything but rather merely serves as an interface between the WLAN and the wire network and thus does not act as a master ..." (Sep 2017 Remarks, pp. 6-7).

The Examiner disagrees.

Claim 2 recites:

1. A communication device capable of communicating according to a *master/slave* relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

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a transceiver, in the role of the master according to the *master/slave* relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from *the master to the slave* has reverted to the first modulation method.

58. A communication device capable of communicating according to a *master/slave* relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the *master/slave* relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than

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the first modulation method, and wherein the transceiver is configured to transmit messages with:

a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.

59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

MPEP § 2103 I C states “Product claims are claims that are directed to either machines, manufactures, or compositions of matter.”

First, the Examiner disagrees that the master/slave relationship is a limitation. Claim 2 is a single means claim and cannot invoke 112 6<sup>th</sup> paragraph, the whole claim of claim 2 comprises a transceiver which as it is known in the art as comprising a transmitter and a receiver. The only limitation in claim 2 that precedes with "configured to" is “to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” As explained in the rejection under 35 USC 102 in Section V of the Mar 2017 Non-Final Office Action, Snell met this limitation. As to claim 59, in addition to the transceiver is configured to send the third sequence as in claim 2, the transceiver is also configured to transmit

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a first sequence and a second sequence as claimed, which is also disclosed by Snell. Because claims 2 and 59 do not invoke 112 6<sup>th</sup> paragraph and a master/slave relationship is not a structure, the term “master/slave relationship” is not part of a transceiver or the device of claims 2 and 59. Accordingly, in response to Patent Owner's argument that the references fail to show certain features of Patent Owner's invention, it is noted that the features upon which Patent Owner relies (i.e., master/slave relationship) are not a structure in the rejected product claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, to the extent that the Patent Owner argues that a master/slave relationship should be part of the structure of the transceiver, the transceiver of Snell is also capable of communication in a master role in a master/slave relationship just like the transceiver in claims 2 and 59 of the `580 patent because both transceivers are programmable.

Third, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and is capable of acting as a master in a master/slave relationship because an access point is simply a programmable communication device which is capable of being configured and used as a master device. Contrary to Patent Owner's assertion, Snell's transceiver can be set up in many configurations including in a peer to peer communication. Harris AN9614 discloses that the PRISM chipset described in Snell can operate in a polled (master/slave) protocol:

[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the

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timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

-- Harris AN9614 at 3.

This discloses that when the PRISM chipset described in Snell's transceiver is configured to operate in a polled (master/slave) protocol, power consumption can beneficially be reduced by more than an order of magnitude.

A polled protocol is a master/slave protocol, as confirmed by the '580 patent ('580 patent at col. 4, lines 6-9). See also IPR2014-00518, Pap. 47 at 15 ("In [a polling] protocol, a centrally assigned master periodically sends a polling message to the slave nodes, giving them explicit permission to transmit on the network."); IPR2014-00518, Exhibit 1220 (Goodman Declaration) ¶103.

Further, both claims 1 and 58 recite master/slave relationship and it is determined by PTAB that master-slave relationship is unpatentable subject matter.

### **Two different types of modulation method**

Patent Owner argues:

The Court of Appeals for the Federal Circuit provided a construction for the "at least two types of modulation methods" recited in the claims of the '580 Patent as "different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods." Rembrandt Wireless Tech., v. Samsung Electronics, 853 F. 3d 1370, 1377 (Fed. Cir. 2017). This determination was based upon claim construction rules that apply to both the Phillips standard and the broadest reasonable interpretation standard used in reexamination proceedings. Specifically, the CAFC looked to an "unambiguous"

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statement in the prosecution history of the '580 Patent to reach its conclusion. See, e.g., *Microsoft Corp. v. Proxyconn, Inc.*, 789 F. 3d 1292, 1298 (Fed. Cir. 2015) (“The PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.”).

...

-- Sep 2017 Remarks, pp. 7-8.

The Examiner disagrees. Unlike in an infringement case such as in *Rembrandt Wireless Tech. v. Samsung Elec. Co.* cited above, claims can be amended in an examination or reexamination proceeding and therefore must be given broadest reasonable interpretation in light of the specification (see MPEP 2111).

Further, in IPR2014-00518, PTAB clearly explained how to interpret "different type of modulation methods" and determined that Boer teaches different types of modulation methods. Similarly Snell also teaches different types of modulation methods.

The specification does not use the term "different family of modulation method" or “FSK family of modulation method.” In fact, the specification of the '580 patent does not mention frequency shift key modulation or FSK modulation, let alone FSK family of modulation method. Therefore in light of specification, the Examiner could not interpret “different types of modulation method" as “different family of modulation method.” The instant specification states:

As discussed hereinbefore, however, it is desirable to design a multipoint communication system comprising tribs that use a plurality of modulation methods. For example, one moderately priced trib may be used to communicate at a relatively high data rate for some applications, such as Internet access, while another, lower priced, trib is used to communicate at a lower data rate for other applications, such as power monitoring and control. The needs of these different applications cannot be efficiently met by a single modulation. While it is possible



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to use high performance tribs running state of the art modulation methods such as QAM, CAP, or DMT to implement both the high and low data rate applications, significant cost savings can be achieved if lower cost tribs using low performance modulation methods are used to implement the lower data rate applications.

--col. 5, lines 7-21, the `580 patent.

As stated in the above section of the `580 patent, one type of modulation method can be used to implement both the high and low data rate application, though using a low performance one can be cost saving. Anyway, the specification of the `580 patent fails to describe that different types of modulation methods are different families of modulation methods and the Examiner will interpret different type of modulation method according to its plain meaning. For example, BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator or vice versa.

### **QPSK demodulator can demodulate a BPSK signal**

Patent Owner uses Akl declaration and argues that a QPSK demodulator can demodulate a BPSK signal and "In Snell, there is no evidence of any incompatibility issue ..." (Sep 2017 Remarks, pp. 8-9).

The Examiner disagrees. As can be seen from pp. 8-9 of the Sep 2017 Remarks, specific handling or modification must be made in order for a QPSK demodulator to demodulate a BPSK signal and Akl Declaration is silent on whether a BPSK demodulator can demodulate QPSK signal, which further implies that QPSK and BPSK are different modulation methods. Nonetheless, according to the interpretation set forth in IPR2014-00518, QPSK and BPSK are

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different modulation methods. Further, whether QPSK and BPSK methods are incompatible has nothing to do with whether there is any incompatible issues in Snell because a system such as Snell can handle different modulation methods but has no incompatible issues.

### **The Third Sequence**

Patent Owner alleges "there is no support for equating Kamerman's unacknowledged packet to the claimed 'third sequence' that 'is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. ...'" (Sep 2017 Remarks, pp. 10-11).

The Examiner disagrees. As explained in Jul 2017 Final Office Action, Snell teaches the third sequence.

To the extent that a reviewing person does not agree that Snell teaches the third sequence, Kamerman is introduced to teach switching between different modulation methods in the limitation of transmitting the third sequence, i.e., the limitation "*the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method,*" which only requires the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method. As explained in Jul 2017 Final Office Action at pp. 13-15, Kamerman discloses an automatic rate selection scheme for reverting (e.g. falling back) from a "second modulation method" (e.g., QPSK) corresponding to a higher data rate (e.g., 2Mbits/s) to a "first modulation method" (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s)

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after unacknowledged packet transmissions, for instance where there is a high load in neighbor cells causing cochannel interference (pp. 6, 11 and 12). The third sequence is the unacknowledged packet or a number of successive correctly acknowledged packet transmission.

### **Snell is cumulative to Boer and Samsung's Arguments**

Patent Owner presents comparisons of the arguments Samsung made to support its `580 reexamination request with those previously made to support its petition in the `519 IPR and the `114 IPR and "respectfully requests the Examiner consider these comparisons and terminate the `580 reexamination for lack of any SNQ....." (Sep 2017 Remarks, pp. 11-28).

As explained in Jul 2017 Final Office Action at pp. 16-17, Snell can be used to raise an SNQ because of the following reasons:

1. Snell presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record *during the prosecution of the application that resulted in the patent for which reexamination is requested* (see Sep 2016 Order, pp. 9-11).

2. In all the previous IPRs, i.e., IPR2014-00518, IPR2014-00519, IPR2014-00514, IPR2014-00515, IPR2015-00114 and IPR2015-00118, PTAB did not institute review of claims 2 and 59 and therefore the teaching presented by Snell and references incorporated by Snell regarding claims 2 and 59 is new and non-cumulative. Although the reference of Boer is similar to Snell, there is no provision in MPEP that requires comparing two prior art references and determines if one is cumulative to another to determine if a SNQ exists for claims that have not been reexamined before.

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Further, there is no provision in MPEP that requires comparing arguments made in a previous IPRs and the instant reexamination request to determine if one is cumulative to another or to determine if a SNQ exists for claims that have not been reexamined before.

Therefore the arguments presented in pp. 12-28 are considered but are not persuasive.

### **Snell and Destination Address**

Patent Owner asserts that Snell does not inherently teach a destination address because Snell could have been implemented as a broadcast system ... (Sep 2017 Remarks, pp. 28-30).

The Examiner disagrees.

First, the Examiner disagrees that the master/slave relationship is a limitation. Claim 2 is a single means claim and cannot invoke 112 6<sup>th</sup> paragraph, the whole claim of claim 2 comprises a transceiver which as it is known in the art as comprising a transmitter and a receiver. The only limitation in claim 2 that precedes with "configured to" is "to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method." As explained in the rejection under 35 USC 102 in Section V of the Jul 2017 Final Office Action, Snell met this limitation. As to claim 59, in addition to the transceiver is configured to send the third sequence as in claim 2, the transceiver is also configured to transmit a first sequence and a second sequence as claimed, which is also disclosed by Snell. Because claims 2 and 59 do not invoke 112 6<sup>th</sup> paragraph and a destination address is not a structure, the term "destination address" is not part of a transceiver or the device of claims 2 and 59.

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Accordingly, in response to Patent Owner's argument that the references fail to show certain features of Patent Owner's invention, it is noted that the features upon which Patent Owner relies (i.e., destination address) are not a structure in the rejected product claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, Snell's system is not a broadcast system. Akl declaration asserted "Snell, discloses a transceiver 30 (Snell at Fig. 1, 4:42-43) designed for peer-to-peer communications..." (Sep 2017 Remarks, p. 5). Therefore based on the Akl declaration, because Snell is not implemented as a broadcast system, it is inherent that Snell teaches a destination address even if a destination address is given patentable weight in the transceivers of claims 2 and 59.

For the above reasons, the rejections of claims 2 and 59 have not been overcome.

Signed:

/Yuzhen Ge /

Primary Examiner

Central Reexamination Unit 3992

(571) 272-7636

Conferees:

/Colin LaRose/

<b><i>Ex Parte Reexamination Advisory Action Before the Filing of an Appeal Brief</i></b>	<b>Control No.</b> 90/013,808	<b>Patent Under Reexamination</b> 8023580	
	<b>Examiner</b> Yuzhen Ge	<b>Art Unit</b> 3992	<b>AIA (First Inventor to File) Status</b> No

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

THE PROPOSED RESPONSE FILED 18 September 2017 FAILS TO OVERCOME ALL OF THE REJECTIONS IN THE FINAL REJECTION MAILED 18 July 2017.

1.  Unless a timely appeal is filed, or other appropriate action by the patent owner is taken to overcome all of the outstanding rejection(s), this prosecution of the present *ex parte* reexamination proceeding WILL BE TERMINATED and a Notice of Intent to Issue *Ex Parte* Reexamination Certificate will be mailed in due course. Any finally rejected claims, or claims objected to, will be CANCELLED.
- THE PERIOD FOR RESPONSE IS EXTENDED TO RUN 5 MONTHS FROM THE MAILING DATE OF THE FINAL REJECTION. Extensions of time are governed by 37 CFR 1.550(c).

**NOTICE OF APPEAL**

2.  An Appeal Brief is due two months from the date of the Notice of Appeal filed on \_\_\_\_\_ to avoid dismissal of the appeal. See 37 CFR 41.37(a). Extensions of time are governed by 37 CFR 1.550(c). See 37 CFR 41.37(e).

**AMENDMENTS**

3.  The proposed amendment(s) filed after a final action, but prior to the date of filing a brief, will not be entered because:
- (a)  They raise new issues that would require further consideration and/or search (see NOTE below);
- (b)  They raise the issue of new matter (see NOTE below);
- (c)  They are not deemed to place the proceeding in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d)  They present additional claims without canceling a corresponding number of finally rejected claims.
- NOTE: \_\_\_\_\_ (See 37 CFR 1.116 and 41.33(a)).
4.  Patent owner's proposed response filed \_\_\_\_\_ has overcome the following rejection(s): \_\_\_\_\_
5.  The proposed new or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
6.  For purposes of appeal, the proposed amendment(s) a)  will not be entered, or b)  will be entered and an explanation of how the new or amended claim(s) would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:  
 Claim(s) patentable and/or confirmed: \_\_\_\_\_  
 Claim(s) objected to: \_\_\_\_\_  
 Claim(s) rejected: \_\_\_\_\_  
 Claim(s) not subject to reexamination: \_\_\_\_\_

**AFFIDAVIT OR OTHER EVIDENCE**

7.  A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
8.  The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because patent owner failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9.  The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence fails to overcome all rejections under appeal and/or appellant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10.  The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11.  The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See the attached documents.
12.  Note the attached Information Disclosure Statement(s), PTO/SB/08, Paper No(s) \_\_\_\_\_.
13.  Other: \_\_\_\_\_.

/Yuzhen Ge/ Primary Examiner, Art Unit 3992		
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cc: Requester (if third party requester)



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
90/013,808 09/12/2016 8023580 3277-0114US-RXM1 2211

6449 7590 11/13/2017
ROTHWELL, FIGG, ERNST & MANBECK, P.C.
607 14th Street, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER

GE, YUZHEN

ART UNIT PAPER NUMBER

3992

MAIL DATE DELIVERY MODE

11/13/2017

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

ROPES & GRAY LLP

PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43

800 BOYLSON STREET

BOSTON, MA 02199-3600

Date:

**NOV 13 2017**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808

PATENT NO. : 8023580

ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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Rothwell, Figg, Ernst & Manbeck, P.C. (For Patent Owner)  
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Washington, D.C. 20005

Ropes & Gray LLP (For Requester)  
IPRM Docketing - Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, MA 02199-3600

In re Bremer :  
*Ex Parte* Reexamination Proceeding : DECISION ON PETITION  
Control No. 90/013,808 : UNDER 37 C.F.R. § 1.181  
Filed: September 12, 2016 :  
For: U.S. Patent No.: 8,023,580 B2 :

This is a decision on a petition filed by Patent Owner, entitled “PETITION REQUESTING THE DIRECTOR TO EXERCISE HER SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181 AND/OR § 1.182.” (hereinafter “September 18, 2017 petition” or “instant petition”).

The instant petition requests that the Office vacate the Final office action of July 18, 2017.

The petition is before the Director of the Central Reexamination Unit (CRU).

### REVIEW OF RELEVANT FACTS

1. On September 20, 2011, U.S. Patent No. 8,023,580 (the '580 patent) issued to Gordon F. Bremer.
2. On September 12, 2016, the third party requester filed a request for *ex parte* reexamination of the '580 patent, requesting reexamination of claims 2 and 59. The reexamination proceeding was assigned control no. 90/013,808 and was given a filing date of September 12, 2016.
3. On September 27, 2016, reexamination of claims 2 and 59 of the '580 patent was ordered in this proceeding.
4. On September 30, 2016, Patent Owner filed a petition under 37 C.F.R. § 1.182 requesting that this proceeding be terminated.
5. On November 28, 2016, the Office dismissed Patent Owner's petition under 37 C.F.R. § 1.182 requesting that this proceeding be terminated.
6. On January 24, 2017, the Office issued a non-final office action.
7. On February 9, 2017, Patent Owner filed a petition under 37 C.F.R. § 1.181 requesting that the January 24, 2017 office action be stricken from the record.
8. On March 27, 2017, the Office mailed a *sua sponte* decision which vacated the January 24, 2017 office action.
9. On March 31, 2017, the new office action mailed.
10. On April 3, 2017, Patent Owner's February 9, 2017 petition under 37 C.F.R. § 1.181 was dismissed as moot because the relief requested was already granted in the *sua sponte* decision which vacated the January 24, 2017 office action.
11. Prior to final rejection, another petition under 37 C.F.R. § 1.181 was dismissed.
12. On July 18, 2017, the Office issued a Final office action.
13. The instant petition requests that the Office vacate the Final office action of July 18, 2017.

## APPLICABLE REGULATIONS

### 37 C.F.R. § 1.113 Final rejection or action.

(a) On the second or any subsequent examination or consideration by the examiner the rejection or other action may be made final, whereupon applicant's, or for *ex parte* reexaminations filed under § 1.510, patent owner's reply is limited to appeal in the case of rejection of any claim (§ 41.31 of this title), or to amendment as specified in § 1.114 or § 1.116. Petition may be taken to the Director in the case of objections or requirements not involved in the rejection of any claim (§ 1.181). Reply to a final rejection or action must comply with § 1.114 or paragraph (c) of this section. For final actions in an *inter partes* reexamination filed under § 1.913, see § 1.953.

(b) In making such final rejection, the examiner shall repeat or state all grounds of rejection then considered applicable to the claims in the application, clearly stating the reasons in support thereof.

(c) Reply to a final rejection or action must include cancellation of, or appeal from the rejection of, each rejected claim. If any claim stands allowed, the reply to a final rejection or action must comply with any requirements or objections as to form. (emphasis added)

## APPLICABLE PROCEDURES

### MPEP 1207.03 III (in part)

A position or rationale that changes the "basic thrust of the rejection" will also give rise to a new ground of rejection. *In re Kronig*, 539 F.2d 1300, 1303 (CCPA 1976). However, the examiner need not use identical language in both the examiner's answer and the Office action from which the appeal is taken to avoid triggering a new ground of rejection. It is not a new ground of rejection, for example, if the examiner's answer responds to appellant's arguments using different language, or restates the reasoning of the rejection in a different way, so long as the "basic thrust of the rejection" is the same. *In re Kronig*, 539 F.2d at 1303; see also *In re Jung*, 637 F.3d 1356, 1364–65 (Fed. Cir. 2001) (additional explanation responding to arguments offered for the first time "did not change the rejection" and appellant had fair opportunity to respond); *In re Noznick*, 391 F.2d 946, 949 (CCPA 1968) (no new ground of rejection made when "explaining to appellants why their arguments were ineffective to overcome the rejection made by the examiner" ); *In re Krammes*, 314 F.2d 813, 817 (CCPA 1963) ( "It is well established that mere difference in form of expression of the reasons for finding claims unpatentable or unobvious over the references does not amount to reliance on a different ground of rejection." (citations omitted)); *In re Cowles*, 156 F.2d 551, 1241 (CCPA 1946) (holding that the use of "different language" does not necessarily trigger a new ground of rejection).

### DECISION

In the instant petition, Patent Owner requests that the Office invoke supervisory review to vacate the Final office action of July 18, 2017.

Patent Owner asserts that the examiner abused her discretion, and did not follow 37 C.F.R. § 1.113, such that the outstanding Final office action allegedly, prematurely closed prosecution.

Patent Owner primarily argues that it is entitled to another new non-final office action because the examiner allegedly did not respond to each of Patent Owner's arguments. In making an action final, the examiner is not required to respond to every argument made by Patent Owner.

Rather, pursuant to 37 C.F.R. § 1.113(b), the examiner "shall repeat or state all grounds of rejection then considered applicable to the claims in the application, clearly stating the reasons in support thereof." A review of the record shows that the examiner repeated or stated all grounds of rejection then considered applicable to the claims in the application, and clearly stated the reasons in support thereof, in the subject final rejection.

Patent Owner conversely argues that the examiner made new grounds of rejection because the examiner apparently, actually responded to all of Patent Owner's arguments. Responding to Patent Owner's arguments is not considered a new ground of rejection.

A review of the record shows that the Final office action did not take any tact which can fairly be considered a new ground of rejection. It did not change the statutory basis of the rejection. It was not based on a different teaching. It did not cite to new part(s) of the reference(s) in support of obviousness. And, it did not cite to a different part of the claim in support of a new matter rejection.

Keeping in mind that the ultimate criterion of whether a rejection is considered 'new' is whether the appellant had fair opportunity to react to the thrust of the rejection, Patent Owner indeed had such an opportunity to respond here. Upon receipt of the initial rejection, Patent Owner had notice that it had to show that the art of record, namely Yamano, does not teach, or teaches away from, a destination address.

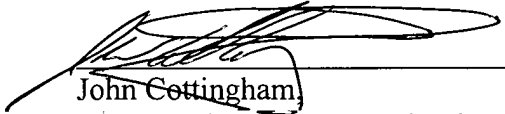
The last basis for the instant petition was that the Final office action allegedly contained a new ground of rejection in that it ostensibly cited a new definition. Assuming for the sake of argument that the final rejection did include a new definition, that inclusion alone would not constitute a new ground of rejection. The use of extrinsic evidence, such as dictionary definitions, does not constitute a new grounds of rejection.

For the reasons set forth above, the examiner followed all applicable rules, regulations and procedures, and did not abuse her discretion in her decision to make the last action final.

Accordingly, Patent Owner's September 18, 2017 petition is dismissed.

**CONCLUSION**

1. Patent Owner's September 18, 2017 petition to invoke supervisory review, to vacate the Final office action of July 18, 2017, is **dismissed** for the reasons discussed above.
2. Telephone inquiries related to this decision should be directed to Michael Fuelling, Supervisory Patent Reexamination Specialist, at (571) 270-1367.



---

John Cottingham  
Director, Central Reexamination Unit

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop "*Ex Parte* Reexam"  
Central Reexamination Unit  
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**SUPPLEMENTAL PETITION REQUESTING THE DIRECTOR TO EXERCISE HIS  
SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181 AND/OR § 1.182**

Pursuant to 37 C.F.R. § 1.181 and/or § 1.182, and further to the Petition Requesting the Director to Exercise His Supervisory Authority Pursuant to 37 C.F.R. § 1.181 and/or 1.182, filed September 18, 2017 in the above referenced matter ("Initial Petition"), Rembrandt Wireless Technologies, LP ("Rembrandt") respectfully submits this Supplemental Petition to aid the Director in deciding the Initial Petition. This filing is timely, as the information in the Supplemental Petition first became available in an Advisory Action issued on October 16, 2017 in the above referenced matter ("Advisory Action"). In the Advisory Action, the Examiner conceded that the Final Office Action contained new arguments not previously presented to Rembrandt, contrary to MPEP § 2271. The Examiner's concession supports Rembrandt's request in its Initial Petition that the Office Action of July 18, 2017 should be withdrawn, as it

was made final prematurely. Rembrandt submits this Supplemental Petition to ensure that all relevant facts are before the Director when the decision is rendered on the Initial Petition.

**Statement of Facts and Issues Relevant to Petition**

- 1) On September 27, 2017, the Office issued an Order granting reexamination of claims 2 and 59 of the '580 patent.
- 2) On January 24, 2017, the Office issued a Non-Final Office Action in the '808 case which, *inter alia*, raised issues beyond the scope of reexamination.
- 3) On February 9, 2017, Rembrandt filed a petition asking the Director to withdraw the January 24, 2017 Non-Final Office Action and revise and reissue another Non-Final Office Action.
- 4) On March 27, 2017, the CRU Director vacated the January 4, 2017 Non-Final Office Action because it "include[d] a discussion of issues outside the scope of ex parte reexamination ...." The Decision also indicated the Office Action "will form no part of the record and will not be available to the public."
- 5) On March 31, 2017, the Office issued a Non-Final Office Action.
- 6) On June 30, 2017, Rembrandt filed a Reply to the Non-Final Office Action. The Reply included arguments for patentability supported by evidence submitted through Dr. Robert Akl (37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (hereinafter "Akl Dec.")).
- 7) On July 18, 2017, the Office issued a Final Office Action.
- 8) On September 18, 2017, Rembrandt filed a Response to Final Office Action ("Response") that addressed the technical and legal errors in the Final Office Action.
- 9) On September 18, 2017, concurrent with the filing of the Response, Rembrandt filed the Initial Petition asking the Director to vacate the Final Office Action or at least make it non-final. The Initial Petition was based on, for example, the Examiner's failure to follow the

requirements of MPEP § 2271 for the issuance of a final office action in an *ex parte* reexamination.

10) On October 16, 2017, the Office issued the Advisory Action in which the Examiner conceded that she included new arguments in the final Office Action even though Rembrandt did not amend the claims or cite any new art (Advisory Action at 3).

### **The Examiner Misunderstands the Requirements for a Final Office Action in *Ex Parte* Reexamination**

As illustrated in the Advisory Action and as pointed out in the Initial Petition, the Examiner misunderstands the requirements that must be met before a final office action may be issued in an *ex parte* reexamination proceeding. Specifically, in the Advisory Action, the Examiner relies on MPEP § 706.07(a), the initial examination provision, as justification for designating the Final Office Action as a final action in an *ex parte* reexamination. Advisory Action at 3. While it may be true that the “criteria for making a rejection final in an *ex parte* reexamination proceeding is analogous to that set forth in MPEP § 706.07(a) for making a rejection final in an application,” that analogy fails where the requirements of MPEP § 706.07 conflict with those of MPEP § 2271. MPEP § 2271 unambiguously sets forth the standard to be met before an office action may be made final in an *ex parte* reexamination, and it clearly differs from that of § 706.07 and from the standard used by the Examiner in the present proceeding.

Specifically, § 2271 provides that “the examiner will **twice provide** the patent owner with such information and references as may be useful in defining the position of the Office as to unpatentability **before the action is made final.**” MPEP § 2271. MPEP § 706, the section the Examiner cites in the Advisory Action, provides that a “**[s]econd or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection** that is neither necessitated by applicant’s amendment of the claims, nor based on information



submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p)." MPEP § 706.07(a). Accordingly, *ex parte* reexamination requires the examiner to "twice provide the patent owner with such information and references as may be useful in defining the position of the Office as to unpatentability before the action is made final" (MPEP § 2271), while initial examination permits *any* subsequent action to be final unless the examiner sets forth a new ground of rejection not necessitated by the Applicant's action. In other words, initial examination is much more permissive than *ex parte* reexamination prosecution in allowing for the designation of an Office action as final.

The MPEP explains the reasoning behind this difference – the unavailability of continuation applications and requests for continued examination in *ex parte* prosecution:

Both the patent owner and the examiner should recognize that a reexamination proceeding may result in the final cancellation of claims from the patent and that the patent owner does not have the right to renew or continue the proceedings by refiling under 37 CFR 1.53(b) or 37 CFR 1.53(d) or former 37 CFR 1.60 or 1.62, nor by filing a request for continued examination under 37 CFR 1.114. Complete and thorough actions by the examiner coupled with complete responses by the patent owner, including early presentation of evidence under 37 CFR 1.131(a) or 37 CFR 1.132, will go far in avoiding such problems and reaching a desirable early termination of the reexamination prosecution.

MPEP § 2271.

Accordingly, the Examiner's reliance on the requirements of MPEP § 706.07 without consideration of MPEP § 2271 is not only procedurally incorrect, but it results in a reexamination which fails to "deal justly with the patent owner," as explained in detail below.

*Id.*

### **Office Action of July 18, 2017 was Made Final Prematurely**

Due to the Examiner's reliance on MPEP § 706.07, which came to light in the Advisory Action, the Examiner prematurely deemed final the Final Office Action. As will be shown

through the discussion below, the Examiner concedes that new arguments were presented for the first time in the Final Office, which is contrary to the requirement of MPEP § 2271 that the Examiner "**twice** provide the patent owner with such information and references as may be useful in defining the position of the Office as to unpatentability before the action is made final." (emphasis added).

*The Examiner Concedes that New Arguments Were Presented in the Final Office Action of July 18, 2017*

While addressing Rembrandt's Response to Final Office Action in the Advisory Action, the Examiner concedes that new arguments were presented. Therefore, the finality of the Final Office Action must be rescinded.

Specifically, in the Advisory Action the Examiner states that "The Examiner would like to point out that **the new arguments in the July 2017 Final Office Action** were set forth based on the new arguments presented by Rembrandt in the June 2017 PO Response." Advisory Action at 3 (emphasis added). Accordingly, given the Examiner's admission, there can be no question that the Examiner improperly raised new arguments in the Final Office Action. Tellingly, the Examiner does not claim to be rebutting or noting errors in Rembrandt's arguments. Instead, the Examiner concedes that new arguments were raised to address Rembrandt's rebuttal arguments.

Furthermore, when one considers the specific new arguments made by the Examiner, it is clear that these arguments are not permissible rebuttal arguments refuting or noting errors in Rembrandt's positions. Instead, the new arguments represent a change in position by the Examiner to avoid addressing Rembrandt's arguments. While Rembrandt described these new arguments in the Initial Petition, the Examiner's new arguments bear repeating here to illustrate that the newly presented arguments were not rebuttal arguments, but set forth newly-taken

positions by the Examiner. Accordingly, Rembrandt highlights the following new arguments set forth by the Examiner in the Final Office Action.

New Argument 1: Snell Discloses Inherently a Destination Address

In the Final Office Action, the Examiner argued for the first time that "Snell inherently teaches" a destination address. Final Office Action at 41-42. This is clearly a new argument because in the Non-Final Office Action the Examiner did not give this feature patentable weight for purposes of the anticipation rejection (Non-Final Office Action at 9-10), and relied on Yamano as disclosing this feature in the two obviousness rejections (Non-Final Office Action at 14, 16-17). Because the Examiner "moves the goal posts" with regard to the destination address feature instead of noting some deficiency in Rembrandt's position, the Examiner set forth for the first time in the Final Office Action "information ... [that] may be useful in defining the position of the Office as to unpatentability." MPEP § 2271. Such information must be "twice provid[ed to] the patent owner ... before the action is made final." *Id.* Therefore, the finality of the Final Office Action must be rescinded.

New Argument 2: New Definition of "Different Type[s]" of Modulation Methods

In the Final Office Action, the Examiner set forth for the first time a new definition for "different type[s]" of modulation methods. Final Office Action at 31-32. In particular, the Examiner makes a new argument that first and second modulation methods are "different type[s]" if "they use different algorithms when performing modulation and the data modulated with the [first modulation method] cannot be demodulated with a [second modulation method] demodulator or vice versa." Final Office Action at 31. The Examiner previously argued that "different types of modulation method [sic]" are "modulation methods that are incompatible with one another." Non-Final Office Action at 7 (citing the PTAB's Final Written Decision in the '518

IPR at 12:18-19; Request at 12, 19-23). The Examiner set forth the new definition for "different type[s]" of modulation methods after Rembrandt argued that the previous definition was incorrect. In other words, the Examiner did not rebut Rembrandt's position that the previous definition was incorrect, but instead presented a completely new definition for the term. Once again, instead of rebutting Rembrandt's position, the Examiner "moves the goal posts" with a new definition for a claim term, which was set forth for the first time in the Final Office Action. Such information must be "twice provid[ed to] the patent owner ... before the action is made final." MPEP §2271. Therefore, the finality of the Final Office Action must be rescinded.

*The Examiner Continues to Ignore the Content Requirements for a Final Office Action*

As discussed in the Initial Petition, a Final Office Action must (i) include a rebuttal of any arguments raised in a patent owner's response; (ii) consider any evidence traversing the rejections and, if the evidence is insufficient to overcome the rejections, specifically explain why; and as discussed above, (iii) limit the arguments to those previously made to "twice provide the patent owner with such information ... as may be useful in defining the position of the Office". MPEP § 2271; *see also* Initial Petition at 2. As shown through the discussion above, the Advisory Action illustrates how the Examiner failed to limit the arguments in the Final Office Action to those previously made to "twice provide the patent owner with such information ... as may be useful in defining the position of the Office". The Advisory Action also perpetuates the Final Office Action's failure to include a rebuttal of any arguments raised in a patent owner's response, and consider any evidence traversing the rejections. Rembrandt briefly discusses these deficiencies for the sake of completeness.

As discussed on pages 7 and 8 of the Initial Petition, the Final Office Action failed to address Rembrandt's argument that, if the Examiner is correct and claims 2 and 59 are single

means claims, then the reexamination cannot proceed because no prior art rejection can be issued, as doing so would necessarily be based on a speculative assumption as to the meaning of the claims. Initial Petition at 7-8. When given a second chance to rebut these arguments by Rembrandt in the Advisory Action, the Examiner maintains her position that claims 2 and 59 are single means claims, but does not provide any rebuttal of Rembrandt's case law showing that the reexamination of such claims must be terminated. *See, e.g.*, Advisory Action at 4-6.

As discussed on pages 8 and 9 of the Initial Petition, the Final Action failed to include a rebuttal of Rembrandt's arguments that the Harris documents were not publicly available at the time prior to the invention of the present application and Rembrandt's arguments that the relevant portions of the Harris documents were not incorporated by reference into Snell. Initial Petition at 8-9. When given a second chance to rebut these arguments by Rembrandt in the Advisory Action, the Examiner repeats her previous positions, and never addresses Rembrandt's case law directly refuting the Examiner's positions. *See, e.g.*, Advisory Action at 4-6.

Accordingly, as illustrated in both the Final Office Action and the Advisory Action, the Examiner has failed to include a rebuttal of the arguments raised in the Response and has failed to explain why Rembrandt's arguments and evidence were not sufficient to overcome the rejections. Without such rebuttal or explanation, Rembrandt may not "readily judge the advisability of an appeal." MPEP § 2271. The finality of the Final Office Action must be rescinded, and Rembrandt must be provided with sufficient rebuttal of its argument and/or explanation of the insufficiency of its arguments to "readily judge the advisability of an appeal." *Id.*

**Conclusion**

In light of the above and the reasons set forth in the Initial Petition, Rembrandt respectfully requests that the Director exercise his supervisory authority and either vacate the Final Office Action of July 18, 2017 or at least make it non-final, as requested in Rembrandt's Initial Petition.

This Supplemental Petition is timely filed, i.e., within two months of the Advisory Action mailed October 16, 2017. To the extent the Office believes any rules prevent its consideration, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this paper may be charged to Counsel's Deposit Account Number 02-2135.

Date: November 14, 2017

Respectfully submitted,  
By: /Michael V. Battaglia/

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**CERTIFICATE OF SERVICE**

It is hereby certified that on this 14th day of November, 2017, the foregoing  
**SUPPLEMENTAL PETITION REQUESTING THE DIRECTOR TO EXERCISE HER  
SUPERVISORY AUTHORITY PURSUANT TO 37 C.F.R. § 1.181(a)(1) AND/OR § 1.182**  
was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters  
Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	30943396
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	14-NOV-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	13:16:48
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		SuppPetition1.pdf	74921  9de2934df6a2a0df39ad005aef87e4a4306e3def	yes	10



<b>Multipart Description/PDF files in .zip description</b>			
<b>Document Description</b>		<b>Start</b>	<b>End</b>
Receipt of Petition in a Reexam		1	9
Reexam Certificate of Service		10	10

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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**CERTIFICATE OF SERVICE**

It is hereby certified that on this 27th day of November, 2017, the foregoing **REQUEST FOR RECONSIDERATION OF THE DECISION ON PETITION UNDER 37 C.F.R. § 1.181 OF NOVEMBER 13, 2017** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop "*Ex Parte* Reexam"  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REQUEST FOR RECONSIDERATION OF THE  
DECISION ON PETITION UNDER 37 C.F.R. § 1.181 OF NOVEMBER 13, 2017**

Pursuant to 37 C.F.R. § 1.181 and/or § 1.182, and further to the Petition Requesting the Director to Exercise His Supervisory Authority Pursuant to 37 C.F.R. § 1.181 and/or 1.182, filed September 18, 2017 in the above referenced matter ("Initial Petition"), and the Supplemental Petition Requesting the Director to Exercise His Supervisory Authority Pursuant to 37 C.F.R. § 1.181 and/or 1.182 ("Supplemental Petitioner"), Rembrandt Wireless Technologies, LP ("Rembrandt") respectfully requests reconsideration of the Decision on Petition Under 37 C.F.R. § 1.181 of November 13, 2017 ("Decision"). Rembrandt further requests the Director exercise his supervisory authority and either vacate the Final Office Action of July 18, 2017 or at least make it non-final, as requested in Rembrandt's Initial Petition and Supplemental Petition. Finally, Rembrandt requests that the Office's decision on this Request for Reconsideration be made a final agency action. *See, e.g.*, MPEP § 1002.02.

### **Statement of Facts and Issues Relevant to Petition**

- 1) On September 27, 2017, the Office issued an Order granting reexamination of claims 2 and 59 of the '580 patent.
- 2) On January 24, 2017, the Office issued a Non-Final Office Action in the '808 case which, *inter alia*, raised issues beyond the scope of reexamination.
- 3) On February 9, 2017, Rembrandt filed a petition asking the Director to withdraw the January 24, 2017 Non-Final Office Action and revise and reissue another Non-Final Office Action.
- 4) On March 27, 2017, the CRU Director vacated the January 4, 2017 Non-Final Office Action because it "include[d] a discussion of issues outside the scope of ex parte reexamination ...." The Decision also indicated the Office Action "will form no part of the record and will not be available to the public."
- 5) On March 31, 2017, the Office issued a Non-Final Office Action.
- 6) On June 30, 2017, Rembrandt filed a Reply to the Non-Final Office Action. The Reply included arguments for patentability supported by evidence submitted through Dr. Robert Akl (37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (hereinafter "Akl Dec.")).
- 7) On July 18, 2017, the Office issued a Final Office Action.
- 8) On September 18, 2017, Rembrandt filed a Response to Final Office Action ("Response") that addressed the technical and legal errors in the Final Office Action.
- 9) On September 18, 2017, concurrent with the filing of the Response, Rembrandt filed the Initial Petition asking the Director to vacate the Final Office Action or at least make it non-final. The Initial Petition was based on, for example, the Examiner's failure to follow the requirements of MPEP § 2271 for the issuance of a final office action in an *ex parte* reexamination.

- 10) On October 16, 2017, the Office issued the Advisory Action in which the examiner admitted that she included new arguments in the final Office Action even though Rembrandt did not amend the claims or cite any new art (Advisory Action at 3).
- 11) On November 13, 2017, the Director of the Central Reexamination Unit ("CRU") issued a decision denying the September 18 Initial Petition ("CRU's Decision" or "Decision"). In the CRU's Decision, the CRU Director makes errors of procedure and fact that justify reconsideration of the September 18 Initial Petition for the reasons discussed below.
- 12) On November 14, 2017, prior to receipt of the CRU's Decision, Rembrandt filed the Supplemental Petition, discussing admissions made by the Examiner in the October 16 Advisory Action which support Rembrandt's argument that the Final Office Action should be vacated or rendered non-final.

### **The CRU's Decision Makes Errors of Procedure and Fact Justifying Reconsideration**

In the CRU's Decision, the CRU Director makes numerous errors that justify reconsideration of the Decision. These errors include:

1. The CRU Director's failure to consider the timing and content requirements for final Office actions in *ex parte* reexaminations provided by MPEP § 2271. Decision at 4.
2. An allegation that the Final Office Action "did not take any tact which can fairly be considered a new ground of rejection. ... It was not based on a different teaching. It did not cite to new part(s) of the reference(s) in support of the obviousness." *Id.*
3. An allegation that the Examiner's newly set forth construction of a claim term did not amount to a new ground of rejection as it "ostensibly cited a new definition." *Id.*

As will be shown through the discussion below, each of these errors justifies reconsideration of the Decision and compel vacating or rendering non-final the Final Office

Action. Finally, Rembrandt requests reconsideration of the Decision so that the Office may consider the arguments presented in the November 14 Supplemental Petition.

**The CRU's Decision Fails to Cite and Apply the Correct Procedure for Issuing a Final Office Action in *Ex Parte* Reexamination**

MPEP § 2271 provides timing and content requirements for final Office actions in *ex parte* reexaminations. MPEP § 2271 identifies differences between the requirements for final Office actions in initial prosecution and those in *ex parte* reexamination. *Compare* MPEP § 2271 *with* MPEP § 706.07. The Decision fails to cite or apply MPEP § 2271, and instead cites 37 C.F.R. § 1.113 as an "Applicable Regulation" and MPEP § 1207.03 as an "Applicable Procedure." Decision at 3. The Examiner similarly failed to consider MPEP § 2271 in the Advisory Action, relying instead on MPEP § 706.07, the standard for final office action during initial prosecution. Advisory Action at 3-4. Reconsideration of the CRU's Decision is warranted so that the Office may apply the correct guidance and standards provided by MPEP § 2271.

First, Rembrandt notes that 37 C.F.R. § 1.113 essentially provides a baseline prohibition on making a first action final in both initial examination and *ex parte* reexamination. 37 C.F.R. § 1.113(a). 37 C.F.R. § 1.113 does not describe when a final office action is appropriate, nor does it describe the content requirements for a final office action, those standards are left to MPEP § 706.07 (for initial examination) and MPEP § 2271 (for *ex parte* reexamination).

MPEP § 2271 provides the following requirements for the timing of a final Office action in an *ex parte* reexamination:

Before a final action is in order, a clear issue should be developed between the examiner and the patent owner. To bring the prosecution to a speedy conclusion and at the same time deal justly with the patent owner and the public, **the examiner will twice provide the patent owner with such information and**

**references as may be useful in defining the position of the Office as to unpatentability before the action is made final.**

Initially, the decision ordering reexamination of the patent will contain an identification of the substantial new questions of patentability that the examiner considers to be raised by the cited prior art. In addition, the first Office action will reflect the consideration of any arguments contained in the request, any amendments submitted with a request under 35 U.S.C. 302, any owner's statement filed pursuant to 37 CFR 1.530, and any reply thereto by the requester, and should fully apply all relevant grounds of rejection to the claims.

MPEP § 2271 (emphasis added).

MPEP § 2271 further explains the content requirements of a final Office action in *ex parte* reexamination:

Both the patent owner and the examiner should recognize that a reexamination proceeding may result in the final cancellation of claims from the patent and that the patent owner does not have the right to renew or continue the proceedings by refiling under 37 CFR 1.53(b) or 37 CFR 1.53(d) or former 37 CFR 1.60 or 1.62, nor by filing a request for continued examination under 37 CFR 1.114. **Complete and thorough actions by the examiner coupled with complete responses by the patent owner, including early presentation of evidence under 37 CFR 1.131(a) or 37 CFR 1.132, will go far in avoiding such problems and reaching a desirable early termination of the reexamination prosecution.**

In making the final rejection, all outstanding grounds of rejection of record should be carefully reviewed and any grounds of rejection relied on should be reiterated. The grounds of rejection must (in the final rejection) be clearly developed to such an extent that the patent owner may readily judge the advisability of an appeal. However, where a single previous Office action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also **should include a rebuttal of any arguments raised in the patent owner's response.**

MPEP § 2271 (emphasis added).

In other words, MPEP § 2271 imposes timing requirements ("the examiner will twice provide the patent owner with such information and references as may be useful in defining the



position of the Office as to unpatentability before the action is made final") and content requirements ("a rebuttal of any arguments raised in the patent owner's response") on final Office action in *ex parte* reexamination that are not set forth in 37 C.F.R. § 1.113 and that are not required in initial examination under MPEP § 706.07 due to the substantial differences between initial examination and *ex parte* reexamination (described in MPEP § 2271).

Because the CRU's Decision did not consider the requirements set forth in MPEP § 2271, the CRU's Decision incorrectly concluded that "[i]n making an action final, the examiner is not required to respond to every argument made by Patent Owner." Decision at 4. Similarly, as evidenced by the Examiner's reliance on MPEP § 706.07 in the Advisory Action, the Examiner failed to consider the requirements of MPEP § 2271 in preparing the Final Office Action. MPEP § 2271 requires that the final Office action "include a rebuttal of any arguments raised in the patent owner's response." As noted in the Initial Petition, *numerous* arguments presented by Rembrandt were not addressed in the Final Office Action. *See, e.g.*, Initial Petition at 6-10. Accordingly, due to the failure of the CRU's Decision to apply the requirements of MPEP § 2271, which directly resulted in *at least* the above described errors, the Initial Petition must be reconsidered, and the Final Office Action must be vacated or rendered non-final.

### **The CRU's Decision Confirms that the Final Office Action Set Forth a New Ground of Rejection**

In the CRU's Decision, the CRU Director argues that no new grounds of rejection were set forth in the Final Office Action:

Keeping in mind that the ultimate criterion of whether a rejection is considered 'new' is whether the appellant had fair opportunity to react to the thrust of the rejection, Patent Owner indeed had such an opportunity to respond here. Upon receipt of the initial rejection, **Patent Owner had notice that it had to show that the art of record, namely Yamano, does not teach, or teaches away from, a destination address.**

Decision at 4 (emphasis added).

This is, in fact, the very point Rembrandt made in the Initial Petition. Rembrandt was on notice that the Office was relying on Yamano as allegedly teaching the destination address of claims 2 and 59. In the Non-Final Office Action, the Examiner conceded that "Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload" and, therefore, asserted that "Yamano discloses transmitting a group of transmission sequences or messages, including a preamble and main body, and that the preamble includes a destination address 'for an intended destination of the payload portion.'" Non-Final Office Action at 14, 16-17; *see also* Initial Petition at 13. Accordingly, Rembrandt agrees with the CRU Director that after the Non-Final Office Action Rembrandt was on notice that it needed to address the deficiencies in the Yamano reference with regard to the recited destination address. The problem with the Final Office Action is that the Examiner relied on, *for the first time*, Snell as teaching the destination address:

Snell teaches that the transceiver is for use in a WLAN (col. 4, lines 41- 47). It is known in the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. ... **Snell inherently teaches it.**

Final Office Action at 42 (emphasis added).

In other words, between the Non-Final Office Action and the Final Office Action, the Examiner altered the obviousness grounds of rejection – in the Non-Final Office Action, Yamano was relied on to the "destination address," while in the Final Office Action, Snell is also relied on to teach the "destination address." As noted in the CRU's Decision, "Patent Owner had notice that it had to show that the art of record, namely Yamano, does not teach, or teaches away from, a destination address." But prior to the Final Office Action, Rembrandt had no notice that

*Snell* was being relied on to teach the destination address.<sup>1</sup> The Examiner's reliance on *Snell* for the first time in the Final Office Action runs contrary to MPEP § 2271, which requires that the Examiner "twice provide the patent owner with such information and references as may be useful in defining the position of the Office as to unpatentability **before** the action is made final." (emphasis added).

Furthermore, when the Examiner presents a new rejection based on inherency, as is the case, here, the new inherency arguments should be set forth as a new ground of rejection. *See, e.g., Application of Echerd*, 471 F.2d 632, 635 (C.C.P.A. 1973) ("Under such circumstances, appellants should have been accorded an opportunity to present rebuttal evidence as to the new assumptions of inherent characteristics made by the board.").

Thus, it is clear that the Final Office Action raises a new ground of rejection.

### **The Examiner's New Claim Construction in the Final Office Action is a New Ground of Rejection**

The CRU's Decision does not contest that the Examiner set forth a new definition for the claim term "different type[s]' of modulation methods. Decision at 4. Instead, the CRU's Decision argues that "the use of extrinsic evidence, such as dictionary definitions, does not constitute a new ground of rejection." *Id.* There are numerous issues with this determination, all of which warrant reconsideration of the Decision.

First, the new definition for "different type[s]' of modulation methods does not come from extrinsic evidence, such as a dictionary. *See, e.g.,* Final Office Action at 31. Instead, the

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<sup>1</sup> For completeness, Rembrandt notes that the anticipation rejection over *Snell* also failed to put Rembrandt on notice that *Snell* allegedly taught the "destination address." That's because, in the anticipation rejection, the Examiner did not give patentable weight to any of the recitations that included the "destination address" at issue in the obviousness grounds. *See, e.g.,* Non-Final Office Action at 9 and 11.

Examiner makes a conclusory statement about how the term will be interpreted. *Id.* Accordingly, the Decision's reliance on an alleged ability to rely on dictionary definitions without setting forth such a definition in a new ground of rejection is a *non sequitur* as the Examiner did not set forth a dictionary definition in the Final Office Action.

Second, even if the Examiner had set forth a dictionary definition for "different type[s]" of modulation methods, such a new definition would have amounted to a new ground of rejection. As explained by the Federal Circuit, the ordinary procedure is to set forth a new ground of rejection when a dictionary is relied upon, unless the dictionary serves a minor role:

**Ordinarily, citation by the board of a new reference, such as the dictionary in this case, and reliance thereon to support a rejection, will be considered as tantamount to the assertion of a new ground of rejection.** This will not be the case, however, where such a reference is a standard work, cited only to support a fact judicially noticed and ... the fact so noticed plays a minor role, serving only to fill in the gaps which might exist in the evidentiary showing made by the Examiner to support a particular ground for rejection.

*In re Biedermann*, 733 F.3d 329, 338 (Fed. Cir. 2013) (internal citations and quotations omitted) (emphasis added).

Third, the correct construction of "different type[s]" of modulation methods plays more than a minor role in the current proceeding. The correct construction of this term is what resulted in the Federal Circuit confirming the patentability of the claims at issue in the present proceeding after they were challenged in district court:

Contrary to the way Samsung has cast the issue, whether Boer meets the "different types" limitation under the court's construction is a factual question. Particularly with regard to obviousness, it is a factual question going to the scope and content of the prior art. See *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). We review such factual questions underlying obviousness for substantial evidence. *Circuit Check*, 795 F.3d at 1334. Taken with Dr. Morrow's testimony, the fact that Boer's DBPSK and PPM/DQPSK

modulation methods both alter phase is substantial evidence to support the jury's presumed fact finding that Boer did not teach the "different types" limitation.

*Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, 853 F.3d 1370, 1379 (Fed. Cir. 2017).

The art and grounds of rejection in the current proceeding rely on DBPSK and DQPSK, which are similar to "Boer's DBPSK and PPM/DQPSK modulation methods" that were found by the Federal Circuit to be insufficient to render the subject claims of the '580 Patent unpatentable. Therefore, construction of "different type[s]" of modulation methods is not a minor issue for which extrinsic evidence may be cited without setting forth a new ground of rejection.

Fourth, it is the practice of the Office to set forth new grounds of rejection in response to a new claim construction. Rembrandt provides the following small sampling of the Office's recent decisions illustrating this practice:

Since our claim interpretation is different from the Examiner's and our rationale for affirming the rejections is different from the Examiner's, we designate the affirmances 2-4 as new grounds of rejections.

*Woodbolt Distribution, LLC. Requester & Respondent*, APPEAL 2016-000745, 2016 WL 2866240, at \*17 (May 13, 2016).

Nevertheless, because we disagree with the Examiner's claim interpretation, and because our findings and explanation expand upon and/or differ from the Examiner's in some ways, we designate our affirmance as New Grounds of Rejection, giving Appellants a fair opportunity to respond in prosecution.

*Ex Parte Shelly Lynn Shields & Omar Yousif Abdelmagid*, APPEAL 2017-000052, 2017 WL 5508884, at \*7 (Oct. 30, 2017).

Because in some instances the claim interpretation and reasoning we rely on to sustain the rejections of claims 1 and 4-9 differs from the Examiner's claim interpretation, we designate our affirmance of the rejections of these claims as new grounds of rejection so as to provide Appellants with a full and fair opportunity to respond to the thrust of the rejections.

*Ex Parte Luca Antonio Bortoloso, Guido Giuffrida, & Isabella Roncagliolo*, APPEAL 2015-006985, 2016 WL 6216650, at \*5 (Oct. 20, 2016).

Because in some instances the claim interpretation and reasoning we rely on to sustain the rejections of claims 1-12 and 14-21 differs from those of the Examiner, we designate our affirmances of the rejections of these claims as new grounds of rejection so as to provide Appellants with a full and fair opportunity to respond to the thrust of the rejections.

*Ex Parte Vassilina Nikoulina & Agnes Sandor*, APPEAL 2016-003107, 2017 WL 244135, at \*12 (Jan. 17, 2017).

Finally, in the following quotation, the CRU's Decision may be suggesting that a new ground of rejection may be permissible in response to Rembrandt rebuttal arguments:

Patent Owner conversely argues that the examiner made new grounds of rejection because the examiner apparently, actually responded to all of Patent Owner's arguments. Responding to Patent Owner's arguments is not considered a new ground of rejection.

Decision at 4.

In any case, while it is unclear if the CRU Director is arguing that the Examiner's arguments did not amount to new grounds of rejection, or is instead suggesting that rebuttal arguments cannot be considered new grounds of rejections, the latter is a clear misstatement of the law. It is well established that "A new ground of rejection is not negated by the fact that the Board is responding to an appellant's argument." *In re Biedermann*, 733 F.3d 329, 338 (Fed. Cir. 2013); *see also* MPEP § 2271 ("[T]he examiner will twice provide the patent owner with such information and references as may be useful in defining the position of the Office as to unpatentability before the action is made final."). As for the former, Rembrandt notes that the discussion above, the discussion in the Initial Petition, and the discussion in the Supplemental Petition show that the Examiner's rebuttal arguments clearly set forth new grounds of rejection. As also discussed above and contrary to the CRU Director's statement, in the Initial Petition and in the Supplemental Petition, the Examiner did **not** "actually respond[] to all of Patent Owner's arguments." *See, e.g.*, Initial Petition at 6-10.

## **Conclusion**

In light of the errors in the CRU's Decision noted above, Rembrandt respectfully requests that the Initial Petition be reconsidered, and the Director exercise his supervisory authority to either vacate the Final Office Action of July 18, 2017 or at least make it non-final, as requested in Rembrandt's Initial Petition. Rembrandt further requests that the Office's decision on this Request for Reconsideration be made a final agency action. *See, e.g.,* MPEP § 1002.02.

To the extent the Office believes any rules prevent full consideration of this petition, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Any fee required for submission of this petition may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: November 27, 2017    By: /Michael V. Battaglia/  
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*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	31045629
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	27-NOV-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	14:07:04
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ReqReconsideration.pdf	90926  <small>7e5cb0d22bb0644773c0318d5d09c4b96e1c7039</small>	yes	13



<b>Multipart Description/PDF files in .zip description</b>			
	<b>Document Description</b>	<b>Start</b>	<b>End</b>
	Reexam Certificate of Service	13	13
	Reexam Miscellaneous Incoming Letter	1	12

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	90926
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 6th day of December, 2017, the foregoing **REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.550** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
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/Michael V. Battaglia/  
Michael V. Battaglia  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

**REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.550**

In *Ex Parte* Reexamination Control No. 90/013,808 ("808 Reexamination"), Patent Owner ("Rembrandt") respectfully requests a one (1) month extension of time to file its notice of appeal, extending the due date for Rembrandt's notice of appeal from December 18, 2017 to January 18, 2018. As will be shown through the discussion below, sufficient cause exists for the granting of the present request.

**Statement of Facts**

- 1) On September 12, 2016, Samsung Electronics America, Inc. ("Requester") filed a Request for *Ex Parte* Reexamination of U.S. Patent No. 8,023,580 ("Request"). Set forth in the Request were alleged substantial new questions of patentability based in part on U.S. Patent No. 5,982,807 to Snell ("Snell"), as well as Harris 1064.4 and Harris AN9614 (collectively the "Harris documents").
- 2) On September 27, 2017, the Office issued an Order granting reexamination of claims 2 and 59 of the '580 patent ("Order").

- 3) On September 30, 2016 (prior to receiving the Office's Order), Rembrandt filed a Petition Requesting the Director to Exercise Her Discretionary Authority Under 35 U.S.C. § 325(d) requesting that the Director reject Samsung's Request ("§ 325(d) Petition").
- 4) On November 22, 2016, the Office of Patent Legal Administration ("OPLA") dismissed Rembrandt's § 325(d) Petition, in essence, focusing on whether there was a substantial new question of patentability rather than considering the reach of § 325(d).
- 5) On January 24, 2017, the Office issued a Non-Final Office Action which, *inter alia*, raised issues beyond the scope of reexamination.
- 6) On February 9, 2017, Rembrandt filed a petition asking the Director to withdraw the January 24, 2017 Non-Final Office Action and revise and reissue another Non-Final Office Action.
- 7) On March 27, 2017, the CRU Director vacated the January 24, 2017 Non-Final Office Action because it "include[d] a discussion of issues outside the scope of ex parte reexamination ...." The Decision also indicated the Office Action "will form no part of the record and will not be available to the public."
- 8) On March 31, 2017, the Office issued a second Non-Final Office Action.
- 9) On June 30, 2017, Rembrandt filed a Reply to the second Non-Final Office Action. The Reply included arguments for patentability supported by evidence submitted through Dr. Robert Akl (37 C.F.R. § 1.132 Declaration of Dr. Robert Akl ("Akl Dec.")). The Reply also included arguments challenging the status of the Harris documents as prior art. Reply at 55-69.
- 10) On July 18, 2017, the Office issued a Final Office Action. The Final Office Action, *inter alia*, did not address Patent Owner's argument that the Harris documents had not been shown

to be prior art, as is legally required under the patent laws, i.e., had not been shown to be accessible to the relevant public.

- 11) On September 18, 2017, Rembrandt filed a Response to the Final Office Action ("Response") that addressed the technical and legal errors in the Final Office Action. Concurrent with the filing of the Response, Rembrandt filed three documents: (1) a petition seeking termination of the grounds of rejection that relied upon the Harris documents ("Harris Petition"), (2) a request for reconsideration of the Office's earlier dismissal of a request to terminate the '808 reexamination pursuant to 35 U.S.C. § 325(d) ("§ 325(d) Reconsideration Request") and for a final agency action, and (3) a petition to vacate or rescind the finality of the Final Office Action ("Petition to Rescind Finality").
- 12) On October 16, 2017, the Office issued the Advisory Action in which the examiner admitted that she included new arguments in the final Office Action even though Rembrandt did not amend the claims or cite any new art (Advisory Action at 3). The Advisory Action set December 18, 2017 as the due date for Rembrandt's notice of appeal.
- 13) On November 13, 2017, the Director of the Central Reexamination Unit ("CRU") issued a decision dismissing the September 18 Petition to Rescind Finality ("CRU's Decision"). In the CRU's Decision, the CRU Director makes errors of procedure and fact that justify reconsideration of the September 18 Petition to Rescind Finality.
- 14) On November 14, 2017 (prior to receipt of the CRU's Decision denying the September 18 Petition to Rescind Finality), Rembrandt filed a supplemental petition ("Supplemental Petition") again requesting that the Final Office Action be vacated or rendered non-final and requesting that the Office consider certain admissions made by the Examiner in the October

16 Advisory Action. Those admissions further support Rembrandt's argument that the Final Office Action should be vacated or rendered non-final.

15) On November 24, 2017, Rembrandt filed a request for reconsideration of the CRU's Decision ("Finality Reconsideration Request") and for a final agency action.

### **Sufficient Cause Exists for Granting Patent Owner's Request for Extension of Time**

37 C.F.R. § 1.550(c) requires a showing of sufficient cause for extensions of time in *ex parte* reexaminations. Rembrandt respectfully submits that sufficient cause exists to grant a one-month extension of time for Rembrandt to file its notice of appeal in order to allow consideration of Rembrandt's pending petitions and requests for reconsideration. Specifically, a decision in one or more of the pending petitions and requests for reconsideration will prevent prejudice to Rembrandt, reduce or simplify issues on appeal, and/or render an appeal unnecessary. With respect to preventing prejudice to Rembrandt, upon filing the Notice of Appeal, Rembrandt will need to begin expending substantial resources to prepare its appeal brief, all of which will be wasted if any of the petitions are granted. Given that Rembrandt has been forced to spend millions of dollars to date defending numerous IPRs which failed to result in invalidation of the challenged claims, it would be prejudicial to demand that Rembrandt spend still more money prior to any decision on the pending petitions. Therefore, sufficient cause exists to grant Rembrandt a one-month extension of time to file its notice of appeal. Furthermore, there will be no prejudice to any party, including Requester Samsung, if Rembrandt is granted a one-month extension of time (as explained below).

### **Rembrandt's Finality Reconsideration Request Provides Sufficient Cause to Grant an Extension of Time**

The Office recognizes that the grounds of rejection in final Office actions "must ... be clearly developed to such an extent that the patent owner may readily judge the advisability of an

appeal." MPEP § 2271. On September 18, 2017, Rembrandt challenged the finality of the Final Office Action because the Office action failed to address the substance of numerous arguments for patentability (and failed to address the evidence supporting those arguments) despite the requirement to do so. Petition to Rescind Finality at 6. Rembrandt further challenged the finality of the Office action because the Office action "failed to address any of the evidence submitted in the Akl declaration supporting Rembrandt's arguments, despite the requirement to do so." *Id.* at 11. Rembrandt also challenged the finality of the Office action because the Examiner raised numerous new arguments in the new Office action, including new grounds of rejection, to which Rembrandt was not able to adequately respond. In other words, Rembrandt has directly challenged whether the Final Office Action "clearly developed [the grounds of rejection] to such an extent that the patent owner may readily judge the advisability of an appeal." If Rembrandt is forced to file its notice of appeal prior receiving a final decision on these issues, Rembrandt will be prejudiced by having to prematurely determine whether or not to file an appeal before being able to "readily judge the advisability of an appeal" and by having to expend substantial resources preparing its appeal brief.

While the CRU Director dismissed Rembrandt's Petition to Rescind Finality, Rembrandt has filed the Finality Reconsideration Request to address clear errors in the CRU's Decision and to seek a final agency action regarding this issue. For example, the CRU Director made clear legal errors in failing to consider the relevant requirements of MPEP § 2271. *See, e.g.*, CRU's Decision at 3; *see also, e.g.*, Finality Reconsideration Request at 4-6. The CRU's Decision also ignored the existence of at least one new ground of rejection in the Final Office Action. Specifically, Rembrandt noted that the Examiner relied on a first reference, Yamano, as disclosing features of a pending claim in the Non-Final Office Action, but changed the rejection

to rely on a different reference, Snell, in the Final Office Action. Finality Reconsideration Request at 6-8. The CRU's decision confirms that Yamano was relied upon in the Non-Final Office Action, but fails to even acknowledge the Examiner's reliance on Snell instead in the Final Office Action. *Compare* CRU's Decision at 4 *with* Final Office Action at 42; *see also, e.g.*, Finality Reconsideration Request at 6-8. The CRU's Decision essentially compounds the Examiner's failure to "clearly [develop the grounds of rejection] to such an extent that the patent owner may readily judge the advisability of an appeal." The Final Office Action relies on Snell. In contrast, the CRU's Decision relies on the Examiner's position in the *initial* Office action based on Yamano and claims, that, in spite of the Examiner's change of position, "Patent Owner had notice that it had to show that the art of record, namely Yamano, does not teach, or teaches away from, a destination address." CRU's Decision at 4. Given the CRU's Decision, it simply is not clear which reference will need to be addressed in an appeal brief -- Snell or Yamano? Contrary to the CRU Decision (*see id.*), the Final Office Action did, in fact, take a "tact which can fairly be considered a new ground of rejection," or one "based on a different teaching." Rembrandt's Finality Reconsideration Request also asks the Office to consider that the Examiner admitted that she had presented new arguments in the Final Office Action. *See, e.g.*, Advisory Action at 3; *see also, e.g.*, Supplemental Petition at 5.

Forcing Rembrandt to file its notice of appeal and begin preparing its appeal brief prior to a decision on Rembrandt's Finality Reconsideration Request is particularly prejudicial within the procedural constraints of *ex parte* reexamination. The Office readily recognizes that in *ex parte* reexamination "the patent owner does not have the right to renew or continue the proceedings ... by filing a request for continued examination," and, because of this limitation, the Office provides high standards for final Office actions in *ex parte* reexaminations under MPEP § 2271.



For Rembrandt to address the pending grounds of rejection in its appeal brief, it must be clear which references are being relied upon for each element of the claimed invention. The current rejections are anything but clear. *Compare* CRU's Decision at 4 *with* Final Office Action at 42; *see also, e.g.*, Finality Reconsideration Request at 6-8. Furthermore, in the event Rembrandt's Finality Reconsideration Request is granted after jurisdiction transfers to the Patent Trial and Appeal Board ("PTAB"), Rembrandt may be required to separately petition the PTAB to remove the proceeding from appeal. This would not only prejudice Rembrandt in the form of additional effort and expense, but it would be a waste of Office resources, providing further sufficient cause to grant this Request for Extension of Time.

### **Rembrandt's Pending Harris Petition Provides Sufficient Cause to Grant an Extension of Time**

On September 18, 2017, Rembrandt filed a petition seeking to terminate one or more grounds of rejection in the present proceeding due to the Examiner's reliance on references that have not been shown to be prior art. *See, e.g.*, Harris Petition, *passim*. As will be shown below, the Harris Petition should result in the termination of one or more grounds of rejection in the present proceeding, reducing and simplifying issues for appeal. Accordingly, allowing additional time for the Office to decide the Harris Petition provides sufficient cause for granting the present Request for Extension of Time.

The Harris documents are relied on in *at least* each of the pending rejections under 35 U.S.C. § 103. *See, e.g.*, Final Office Action at 7-15, 24-25. Without providing any legal support for her position, the Examiner alleges that the Harris documents are prior art with regard to the '580 patent because the Harris documents were submitted with the application that matured into the Snell reference, which, according to the Examiner, rendered the Harris documents publicly accessible, and therefore, available for incorporation by reference into Snell. *See, e.g.*, Final

Office Action of July 18, 2017 at 24 ("In other words, as long as the documents, i.e., Harris AN9614 and Harris 4064.4, were provided by Snell at the time the application was filed, these documents are publicly accessible and incorporation by reference is reasonable."). In fact, the law is to the contrary. Previously, the Office addressed substantially the same evidence alleged to support public accessibility in this case and deemed it insufficient. *See, e.g., Microsoft Corp. v. Biscotti Inc.*, Case IPR2014-01457, slip op. at 26–28 (PTAB Mar. 19, 2015) (Paper 9) ("Petitioner does not explain how submission of a document in an IDS of an unpublished, ungranted patent application demonstrates public accessibility of the document, noting that Petitioner does not identify any way that an interested person could or would have located the document submitted in the IDS of an unpublished, ungranted patent application. ... We are persuaded that Petitioner has not demonstrated the public accessibility of the HDMI Specification.").

The Examiner also relies on dates included in the Harris documents as sufficient evidence of public accessibility. *See, e.g., id.* at 25 ("[E]ach of the Harris documents has a publication date and copyright information and it was therefore accessible to the pertinent part of the public and available for duplication."). Again, the Office previously addressed substantially the same evidence and found it wanting. *See Ex parte Rembrandt Gaming Technologies, LP*, Appeal 2014-007853, Reexamination Control No. 90/012,379 at 5 (PTAB December 3, 2014) ("the 1993 copyright date in Tequila Sunrise does not show the requisite availability in 1993"); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper No. 13 at 17 (PTAB Aug. 26, 2015) ("we are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date"). Accordingly, the pending § 103 rejections should be withdrawn in the present proceeding.

As the Office's own decisions show, the present record does not establish that the Harris documents are prior art, i.e., does not establish that they were publicly accessible prior to the priority date of the '580 Patent, necessitating the withdrawal of the grounds under § 103. Accordingly, sufficient cause exists to grant this Request for Extension of Time to permit the Office to decide the Harris Petition, thereby greatly reducing the issues on appeal prior to Rembrandt's filing of a notice of appeal.

### **Rembrandt's § 325(d) Reconsideration Request Provides Sufficient Cause to Grant an Extension of Time**

On September 18, 2017, Rembrandt sought reconsideration of the Office's dismissal of its § 325(d) Petition. In the § 325(d) Reconsideration Request, Rembrandt explained how the present proceeding should have been terminated pursuant to § 325(d) in conformity with the Office's consistent application of this statutory provision. Notably, subsequent to the filing of the § 325(d) Reconsideration Request, the Office presented a "Chat with the Chief" on October 24, 2017, confirming that it is the Office's practice to terminate requests for review with the substantive and procedural background of the present proceeding. Accordingly, the present proceeding should be terminated pursuant to 35 U.S.C. § 325(d), completely obviating any need for an appeal. Therefore, there is sufficient cause to grant the present Request for Extension of Time to allow the Office to decide the § 325(d) Reconsideration Request and enter a final agency action, as doing so may completely eliminate any need for Rembrandt to file a notice of appeal.

As explained in the § 325(d) Reconsideration Request, claims 2 and 59 of the '580 Patent have been challenged by Samsung *five* times – in district court, in three *inter partes* reviews ("IPRs") and the present reexamination. *See*, § 325(d) Reconsideration Request, Exhibit 2. The '580 Patent also faced three *additional* IPR challenges directed to different claims. *Id.* Accordingly, the '580 Patent has faced *six* IPR challenges, and two additional challenges, one in

district court and the present proceeding. As explained by Chief Judge David P. Ruschke, patents challenged by seven or more IPR petitions are "extreme outliers."<sup>1</sup> The present proceeding presents the *seventh* challenge of the '580 Patent at the Office. It is the Office's consistent practice to terminate post-grant proceedings that are much less extreme than the present proceeding. *See, e.g.*, § 325(d) Reconsideration Request at 12-15. Given the "extreme" nature of the present proceeding, the '808 reexamination should be terminated pursuant to § 325(d), thereby bringing an end to the present proceeding. Given the Office's consistent practice in situations such as this one, not to do so in this case would be an abuse of discretion. Thus, Rembrandt's outstanding § 325(d) Reconsideration Request presents sufficient cause to grant the present Request for Extension of Time.

#### **No Party Will be Prejudiced by Granting the Present Request for Extension of Time**

The discussion above illustrates that there is more than sufficient cause to grant this Request for Extension of Time. For completeness, Rembrandt notes that no party will be prejudiced by its grant.

Petitioner Samsung will not be prejudiced. Samsung has been aware of the '580 Patent since at least March 15, 2013, when Rembrandt filed suit against Samsung for infringement of the '580 Patent. § 325(d) Reconsideration Request, Exhibit 2 at 1. Samsung waited more than three years to file the Request for Reexamination in the present proceeding, waiting until after it failed to invalidate claims 2 and 59 of the '580 patent in district court<sup>2</sup> and in three previous IPR

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<sup>1</sup>[https://www.uspto.gov/sites/default/files/documents/Chat\\_with\\_the\\_Chief\\_Boardside\\_Chat\\_Multiple\\_Petition\\_Study\\_20171024.pdf](https://www.uspto.gov/sites/default/files/documents/Chat_with_the_Chief_Boardside_Chat_Multiple_Petition_Study_20171024.pdf) at 36 (last accessed December 1, 2017).

<sup>2</sup> All substantive issues have been finally decided in federal court. The district court decided the case in favor of Rembrandt, and the Federal Circuit affirmed the jury's determination that claims 2 and 59 of the '580 Patent and claim 21 of the '228 Patent are not invalid. Samsung did not challenge the jury's infringement findings on appeal. The case was remanded on an issue of

proceedings. *Id., passim.* Given Samsung's *three-year* delay in filing the present proceeding, there can be no argument that Samsung will be prejudiced by a *one month* extension of time.

Rembrandt understands that there are public policy considerations favoring "special dispatch" in *ex parte* reexamination, and public interest in invalidating "bad patents." The '580 Patent is not such a "bad patent." As illustrated in the discussion above and in the § 325(d) Request for Reconsideration, the '580 Patent represents an "extreme outlier," having faced *six* IPR challenges and a challenge in district court, all of which failed to invalidate claims 2 and 59 of the '580 Patent. With such a procedural background, it is clear that the public would not be prejudiced by granting a one-month extension of time after so many years of failed challenges to the '580 Patent.

### **Conclusion**

In light of the above, Rembrandt respectfully submits that sufficient cause exists to grant Rembrandt a one-month extension of time, extending the due date for Rembrandt's notice of appeal from December 18, 2017 to January 18, 2018.

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damages. *Rembrandt Wireless Techs., LP v. Samsung Elect. Co. Ltd.*, No. 16-1729 (Fed. Cir. 2016).

To the extent the Office believes any rules prevent consideration of this request, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Submitted currently herewith is the requisite fee pursuant to 37 C.F.R. § 1.17(g). Any additional fee required for submission of this request may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: December 6, 2017    By: /Michael V. Battaglia/  
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*Attorney for Patent Owner  
Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.

*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808
<b>Filing Date:</b>	12-Sep-2016
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Attorney Docket Number:</b>	3277-0114US-RXM1

Filed as Large Entity

**Filing Fees for ex parte reexam**

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PETITION FEE- 37 CFR 1.17(G) (GROUP II)	1463	1	200	200
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>200</b>



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	31146781
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	06-DEC-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	15:16:36
<b>Application Type:</b>	Reexam (Third Party)

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Payment Type	DA
Payment was successfully received in RAM	\$200
RAM confirmation Number	120717INTEFSW00001889022135
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PetitionEOT.pdf	85278	yes	13
			35cdb7775d280ec0cee889e411b5cf91e7191c17		

Multipart Description/PDF files in .zip description				
	Document Description	Start	End	
	Reexam Certificate of Service	13	13	
	Reexam Request for Extension of Time	1	12	

**Warnings:**

**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30710	no	2
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**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	115988
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 90/013,808, filing date 09/12/2016, inventor 8023580, attorney docket 3277-0114US-RXM1, and confirmation 2211. Also includes examiner GE, YUZHEN, art unit 3992, mail date 12/08/2017, and delivery mode PAPER.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43  
800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date:

**DEC 08 2017**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered. (37 CFR 1.550(g)).

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<b>Decision on Petition for Extension of Time in Reexamination</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	90/013,808	8,023,580	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ge, Yuzhen	3992	

1. THIS IS A DECISION ON THE PETITION FILED December 6, 2017.

2. THIS DECISION IS ISSUED PURSUANT TO:

- A.  37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
- B.  37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
- C.  37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS

Patent owner requests that the period for filing a Notice of Appeal in response to the final Office action mailed July 18, 2017, which set a two (2) month period for filing a response thereto and for which an advisory action mailed October 16, 2017, extended the time to file a response to the final Office action to 5 (five) months, be extended by an additional one (1) month.

- A. Petition fee per 37 CFR §1.17(g):
  - i.  Petition includes authorization to debit a deposit account.
  - ii.  Petition includes authorization to charge a credit card account.
  - iii.  Other \_\_\_\_\_.
- B.  Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
- C.  Petition was timely filed.
- D.  Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)

- A.  Granted or  Granted-in-part for \_\_\_\_\_, because petitioner provided a factual accounting that established sufficient cause. (See 37 CFR 1.550(c) and 37 CFR 1.956).
- B.  Dismissed because:
  - i.  Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
  - ii.  Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
  - iii.  Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
  - iv.  The statements provided fail to establish sufficient cause to warrant extension of the time for taking action (**See attached**).
  - v.  The petition is moot.
  - vi.  Other/comment: (**See attached**)

5. CONCLUSION: Patent Owner's time period to respond to the July 18, 2017 final Office action remains five (5) months from the mailing date of the final Action (December 18, 2017).

6. Telephone inquiries with regard to this decision should be directed to Stephen Stein at 571-272-1544 in the CRU.

/Stephen Stein/  
Supervisory Patent Reexamination Specialist  
Central Reexamination Unit

The December 6, 2017 petition for an extension of time requests an additional one month to file a Notice of Appeal in response to the final Office Action mailed July 18, 2017, which set a two (2) month period for filing a response thereto and for which an advisory action mailed October 16, 2017, extended the time to file a response to the final Office action to five (5) months, thereby extending the period of response to December 18, 2017.

The petition speaks to the considerations of allowing the Office to first decide Patent Owner's pending petitions and requests for reconsideration of previously decided petitions. Patent Owner argues that waiting for a decision in one or more of the pending petitions and pending requests for reconsideration may reduce issues for appeal and prevent prejudice to Patent Owner because of the need to expend resources preparing an appeal brief which may be unnecessary.

These considerations are noted; however, they must be balanced with the statutory requirement of special dispatch under 35 USC 305.

Pursuant to MPEP § 2265 (in-part) "First requests for extensions of these time periods will be granted for **sufficient cause**, and for a reasonable time specified-usually 1 month. The reasons stated in the request will be evaluated, and the request will be favorably considered **where there is a factual accounting of reasonably diligent behavior by all those responsible for preparing a response or comments within the statutory time period**. Second or subsequent requests for extensions of time, or requests for more than one month, will be granted only in extraordinary circumstances involved" e.g., death or incapacitation of the patent owner (See MPEP § 2265) (Emphasis added).

The circumstances presented in the petition do not rise to the level of "sufficient cause". 37 CFR 1.181(f) states "[t]he mere filing of a petition will not stay any period for reply that may be running against the application, nor act as a stay of other proceedings". Thus, the presence of outstanding petitions and requests for reconsideration cannot be the justification for requesting an extension of time under 37 CFR 1.550(c). Therefore Patent Owner has not presented a showing of sufficient cause which would warrant the granting of an extension of time of an additional month beyond the five months already set.

In addition, it is noted that that the Patentee request for an extension of time pursuant to 37 CFR 1.550(c) has failed to comply with MPEP 2265. In particular, Patentee has failed to provide any factual accounting of the reasonably diligent behavior by all those responsible for preparing a response to the Office action in this reexam proceeding within the statutory time period.

The period for response to the July 18, 2017 final Office action remains at five months from the mailing date of the final Office action (December 18, 2017).

The Request for an extension of time is hereby **Dismissed**.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/013,808	09/12/2016	8023580	3277-0114US-RXM1	2211
6449	7590	12/11/2017	EXAMINER	
ROTHWELL, FIGG, ERNST & MANBECK, P.C.			GE, YUZHEN	
607 14th Street, N.W.				
SUITE 800				
WASHINGTON, DC 20005				
			ART UNIT	PAPER NUMBER
			3992	
			MAIL DATE	DELIVERY MODE
			12/11/2017	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents  
United States Patents and Trademark Office  
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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS  
ROPES & GRAY LLP  
PRUDENTIAL TOWER IPRM DOCKETING -FLOOR 43  
800 BOYLSON STREET  
BOSTON, MA 02199-3600

Date:

**DEC 11 2017**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808  
PATENT NO. : 8023580  
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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# United States Patent and Trademark Office

Office of the Commissioner for Patents

DEC 11 2017

Rothwell, Figg, Ernst & Manbeck, P.C.  
607 14th Street, NW, STE 800  
Washington, D.C. 20005

: (For Patent Owner

:

:

:

Ropes & Gray LLP  
IPRM Docketing - FL 43  
Prudential Tower  
800 Boylston Street

: (For Third Party Requester)

:

:

:

In re Application of Bremer  
*Ex Parte* Reexamination No. 90/013,808  
Filed: September 5, 2017  
cFor: U.S. Patent No.: 8,023,580 B2

: DECISION ON PETITION REQUESTING  
: TERMINATION OF GROUNDS OF  
: REJECTION PURSUANT TO 37 C.F.R. §  
: 1.181

:

:

This is a decision on a petition filed by Patent Owner, entitled “PETITION REQUESTING TERMINATION OF GROUNDS OF REJECTION PURSUANT TO 37 C.F.R. § 1.181” (“Sep. 18, 2017 Petition III” or “instant petition”).<sup>1</sup>

The instant petition is before the Director of the Central Reexamination Unit.

The instant petition is **Dismissed** for the reasons set forth herein.

## I. Background

1. On September 20, 2011, U.S. Patent No. 8,023,580 (the ‘580 patent) issued to Gordon F. Bremer.
2. On September 12, 2016, a third party requester filed a request for *ex parte* reexamination of the ‘580 patent, requesting *ex parte* reexamination of claims 2 and 59. The reexamination proceeding was assigned Control no. 90/013,808 and was given a filing date of September 12, 2016.

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<sup>1</sup> Patent Owner filed three (3) petitions in this *ex parte* proceeding on September 18, 2017. The first titled “Petition Requesting Reconsideration Of OPLA’s November 28, 2016 Dismissal Of Rembrandt’s September 30, 2016 Petition Under Rule 181/182 Requesting The Director To Exercise Her Discretionary Authority Under 35 U.S.C. § 325(D) And A Final Petition Decision In Accordance With PTAB Practice” and noted as Petition I; the second titled Petition Requesting The Director To Exercise His Supervisory Authority Pursuant To 37 C.F.R. § 1.181 And/Or § 1.182” and noted as Petition II; and the third petition, in which this petition decision addresses, is titled “Petition Requesting Termination Of Grounds Of Rejection Pursuant To 37 C.F.R. § 1.181” and noted as Petition III.

3. On September 27, 2016, *ex parte* reexamination of claims 2 and 59 of the '580 patent was ordered.
4. On January 24, 2017, the Office issued a non-final office action ("Jan 2017 Non-Final Office Action").
5. On February 9, 2017, Patent Owner filed a petition under 37 C.F.R. § 1.181 requesting that the January 24, 2017 office action be stricken from the record.
6. On March 27, 2017, the Office mailed a *sua sponte* decision which vacated the Jan 2017 Non-Final Office Action.
7. On March 31, 2017, a new office action mailed ("March 2017 Non-Final Office Action").
8. On April 3, 2017, Patent Owner's February 9, 2017 petition under 37 C.F.R. § 1.181 was dismissed as moot because the relief requested was already granted in the *sua sponte* paper.
9. Prior to final rejection, another petition under 37 C.F.R. § 1.181 was dismissed.
10. On July 18, 2017, the Office issued a Final office action ("July 2017 Final Office Action").
11. On September 18, 2017, patent owner filed 3 petitions.
12. In the instant petition, Patent Owner states that "at least some of the grounds of rejection ... must be terminated as being outside the authority granted to the Office by Congress." Sep. 18, 2017 Petition III, page 1.

## II. Relevant Statutes, Regulations and Procedures

### A. 35 U.S.C. § 134 (Pre-AIA) – Appeal to the Board of Patent Appeals and Interferences

(b) PATENT OWNER.— A patent owner in any reexamination proceeding may appeal from the final rejection of any claim by the primary examiner to the Board of Patent Appeals and Interferences, having once paid the fee for such appeal.

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**B. 37 C.F.R. § 1.181 Petition to the Director.<sup>2</sup>**

(a) Petition may be taken to the Director:

(1) From any action or requirement of any examiner in the *ex parte* prosecution of an application, or in *ex parte* or *inter partes* prosecution of a reexamination proceeding which is not subject to appeal to the Patent Trial and Appeal Board or to the court;

**C. 37 C.F.R. § 41.31 Decision and Other Actions By the Board.<sup>3</sup>**

(a) Who may appeal and how to file an appeal. An appeal is taken to the Board by filing a notice of appeal.

...

(3) Every owner of a patent under *ex parte* reexamination filed under § 1.510 of this title on or after November 29, 1999, any of whose claims has been finally (§ 1.113 of this title) rejected, may appeal from the decision of the examiner to the Board by filing a notice of appeal accompanied by the fee set forth in § 41.20(b)(1) within the time period provided under § 1.134 of this title for reply.

**D. Manual of Patent Examining Procedure (MPEP) § 1201.**

...

The line of demarcation between appealable matters for the Board and petitionable matters for the Director of the U.S. Patent and Trademark Office (Director) should be carefully observed. The Board will not ordinarily hear a question that should be decided by the Director on petition, and the Director will not ordinarily entertain a petition where the question presented is a matter appealable to the Board.

**E. Manual of Patent Examining Procedure (MPEP) § 1002.**

Petitions on appealable matters ordinarily are not entertained.

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<sup>2</sup> 24 FR 10332, Dec. 22, 1959; 34 FR 18857, Nov. 26, 1969; paras. (d) and (g), 47 FR 41278, Sept. 17, 1982, effective Oct. 1, 1982; para. (a), 49 FR 48416, Dec. 12, 1984, effective Feb. 11, 1985; para. (f) revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; paras. (a) and (c) revised, 65 FR 76756, Dec. 7, 2000, effective Feb. 5, 2001; paras. (a), (a)(2)-(3), (c)-(e) & (g) revised, 68 FR 14332, Mar. 25, 2003, effective May 1, 2003; para. (a)(3) revised, 69 FR 49959, Aug. 12, 2004, effective Sept. 13, 2004; paras. (a)(1) and (a)(3) revised, 77 FR 46615, Aug. 6, 2012, effective Sept. 16, 2012.

<sup>3</sup> [Added, 69 FR 49959, Aug. 12, 2004, effective Sept. 13, 2004; para. (a) introductory text, para. (b), and para. (c) first sentence revised, 76 FR 72270, Nov. 22, 2011 effective Jan. 23, 2012].

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### III. Discussion

In the "Statement of Facts" section of the instant petition, Patent Owner is arguing that there is insufficient evidence to establish that some of the prior art documents (*e.g.* the Harris documents) are prior art printed publications. See *e.g.* Sep. 18, 2017 Petition, III., page 14. Accordingly, Patent Owner is essentially arguing that the rejections under 35 U.S.C. § § 102 and 103 using these references, at least in part, are improper and should be withdrawn.

Patent Owner's arguments are not persuasive. Because claims undergoing *ex parte* reexamination were finally rejected, and in accordance with 35 U.S.C. § 134(b) and 37 C.F.R. § 41.31(a) (3), Patent Owner may appeal these finally rejected claims to the Patent Trial and Appeal Board.

Finally, in accordance with MPEP §§ 1201 and 1002, petitions, like the instant petition, on appealable matters are not entertained.

The petition is hereby **DISMISSED**.

### IV. Conclusion

1. The petition requesting termination of grounds of rejection pursuant to 37 C.F.R. § 1.181, *i.e.* the Sep. 18, 2017 Petition III, is hereby **DISMISSED**.
2. Telephone inquiries related to this decision should be directed to Andrew J. Fischer at (571) 272-6779. In his absence, please contact Stephen J. Stein at (571) 272-1544.

  
John Cottingham  
Group Director, Central Reexamination Unit

11/21/17  
ajf

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Attn: Mail Stop “*Ex Parte* Reexam”  
Central Reexamination Unit  
Office of Patent Legal Administration  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**NOTICE OF APPEAL**

In accordance with 35 U.S.C. §§ 134(b) & 306, Patent Owner hereby appeals to the Patent Trial and Appeals Board from the last decision of the Examiner.

The Advisory Action dated October 16, 2017, extended the period for response to run five months from the July 18, 2017, mailing date of the final rejection. Therefore, this Notice of Appeal is being timely filed on December 18, 2017.

The fee required for submission of this request may be charged to Counsel’s Deposit Account Number 02-2135.

December 18, 2017

By: /Michael V. Battaglia/  
Michael V. Battaglia, Reg. No. 64,932  
**ROTHWELL, FIGG, ERNST & MANBECK, P.C.**  
607 14<sup>th</sup> Street, N.W., Suite 800  
Washington, DC 20005  
Phone: 202-783-6040; Facsimile: 202-783-6031  
*Attorney for Petitioner*  
*Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on December 18, 2017, the foregoing **NOTICE OF APPEAL** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808			
<b>Filing Date:</b>	12-Sep-2016			
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS			
<b>First Named Inventor/Applicant Name:</b>	8023580			
<b>Filer:</b>	Michael Vincent Battaglia/Mihoko Shirai			
<b>Attorney Docket Number:</b>	3277-0114US-RXM1			
Filed as Large Entity				
<b>Filing Fees for ex parte reexam</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
NOTICE OF APPEAL	1401	1	800	800
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>800</b>



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	31257345
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Mihoko Shirai
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	18-DEC-2017
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	14:42:01
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$800
RAM confirmation Number	121917INTEFSW14423400
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		3277-0114US-RXM1NoticeofAppeal.pdf	89188	yes	2
			e3e02fc32cebd42d8a1e3ecba51547e6550f9e5c		

Multipart Description/PDF files in .zip description				
Document Description		Start	End	
Notice of Appeal - Requester		1	1	
Reexam Certificate of Service		2	2	

**Warnings:**

**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30502	no	2
			6d3773fd5ecce141e8622e83b3f6cbacc3b1ca65		

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	119690
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

**REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.550**

In *Ex Parte* Reexamination Control No. 90/013,808 (“‘808 Reexamination”), Patent Owner (“Rembrandt”) respectfully requests a one (1) month extension of time to file its appeal brief, extending the due date for filing Rembrandt’s appeal brief from February 18, 2018, to March 18, 2018. As will be shown through the discussion below, sufficient cause exists for the granting of the present request.

**I. Statement of Facts**

- 1) On September 12, 2016, Samsung Electronics America, Inc. filed a Request for *Ex Parte* Reexamination of U.S. Patent No. 8,023,580 (“the ‘580 Patent”).
- 2) On September 27, 2017, the Office issued an Order granting reexamination of claims 2 and 59 of the ‘580 Patent.
- 3) On September 30, 2016 (prior to receiving the Office’s Order), Rembrandt filed a Petition Requesting the Director to Exercise Her Discretionary Authority Under 35 U.S.C. § 325(d) requesting that the Director reject Samsung’s Request (“§ 325(d) Petition”).

- 4) On November 22, 2016, the Office of Patent Legal Administration (“OPLA”) dismissed Rembrandt’s § 325(d) Petition, in essence, focusing on whether there was a substantial new question of patentability rather than considering the reach of § 325(d). OPLA Decision Dismissing Petitions at 3-6.
- 5) On January 24, 2017, the Office issued a Non-Final Office Action which, *inter alia*, raised issues beyond the scope of reexamination.
- 6) On February 9, 2017, Rembrandt filed a petition asking the Director to withdraw the January 24, 2017 Non-Final Office Action and revise and reissue another Non-Final Office Action.
- 7) On March 27, 2017, the CRU Director vacated the January 24, 2017 Non-Final Office Action because it “include[d] a discussion of issues outside the scope of ex parte reexamination ....” The Decision also indicated the Office Action “will form no part of the record and will not be available to the public.”
- 8) On March 31, 2017, the Office issued a second Non-Final Office Action.
- 9) On June 30, 2017, Rembrandt filed a Reply to the second Non-Final Office Action.
- 10) On July 18, 2017, the Office issued a Final Office Action.
- 11) On September 18, 2017, Rembrandt filed a Response to the Final Office Action.

Concurrent with the filing of the Response, Rembrandt filed, *inter alia*: (1) a request for reconsideration of the Office’s earlier dismissal of a request to terminate the ‘808 reexamination pursuant to 35 U.S.C. § 325(d) and requested that the Office render a final agency action (“§ 325(d) Reconsideration Request”), and (2) a petition to vacate or rescind the finality of the Final Office Action (“Petition to Rescind Finality”).

- 12) On October 16, 2017, the Office issued the Advisory Action in which the examiner maintained her positions in the final Office Action. The Advisory Action set December 18, 2017, as the due date for Rembrandt's notice of appeal.
- 13) On November 13, 2017, the Director of the Central Reexamination Unit (“CRU”) issued a decision dismissing the September 18 Petition to Rescind Finality (“CRU’s Decision”).
- 14) On November 14, 2017 (prior to receipt of the CRU’s Decision denying the September 18 Petition to Rescind Finality), Rembrandt filed a supplemental petition again requesting that the Final Office Action be vacated or rendered non-final and requesting that the Office consider certain admissions made by the Examiner in the October 16 Advisory Action.
- 15) On November 27, 2017, Rembrandt filed a request for reconsideration of the CRU’s Decision and requested that the Office render a final agency action (“Finality Reconsideration Request”).
- 16) On December 18, 2017, Rembrandt filed a Notice of Appeal and has worked diligently since that time preparing a first draft of its Appeal Brief.

**II. Sufficient Cause Exists for Granting Patent Owner’s Request for Extension of Time**

37 C.F.R. § 1.550(c) requires a showing of sufficient cause for extensions of time in *ex parte* reexaminations. Rembrandt respectfully submits that sufficient cause exists to grant a one-month extension of time for Rembrandt to file its appeal brief to (1) provide Rembrandt with the necessary time to prepare and finalize a clear and concise appeal brief (given the extensive record and number of issues involved and counsel’s attempt to prepare the brief in the allotted 2-month time period), and (2) allow additional time for the Office to consider Rembrandt’s two

pending requests for reconsideration. Furthermore, as explained below, granting Rembrandt a one-month extension of time to file its appeal brief will not prejudice any party.

**A. Extensive Record and Number of Issues Involved in Appeal Provides Sufficient Cause to Grant an Extension of Time**

While there are only two claims on appeal in this case, there are at least eight issues to be briefed and decided:

- a. Whether the art relied on by the CRU raised a substantial new question of patentability (“SNQ”);
- b. Whether the CRU has given the claims their broadest reasonable construction;
- c. Whether the CRU’s claim construction requires that the reexamination be terminated due to allegations that the claims are “single means claims”;
- d. Whether the evidence establishes that Snell’s attempt to incorporate by reference two documents, referred to as “the Harris Documents,” was successful;
- e. Whether Snell identified “with detailed particularity” the sections of the Harris Documents relied on by the CRU such that the relied-on material was legally incorporated by reference;
- f. Whether claims 2 and 59 are unpatentable under pre-AIA 35 U.S.C. § 102(e) as being anticipated by Snell (relying on incorporation by reference of the Harris Documents);
- g. Whether claims 2 and 59 are unpatentable under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Snell (relying on incorporation by reference in Snell of the Harris Documents) in view of Yamano; and
- h. Whether claims 2 and 59 are unpatentable under pre-AIA 35 U.S.C. § 103(a) as being 5 unpatentable over Snell (relying on incorporation by reference in Snell) of the Harris documents) in view of Yamano further in view Kamerman.

Moreover, the record relating to this case is extensive. That record includes 13 IPRs, district court litigation involving the ‘580 Patent and its child, U.S. Patent No. 8,457,228 (“the ‘228 Patent”), and the record in the copending reexamination of the ‘228 Patent.<sup>1</sup> Six of the 13

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<sup>1</sup> As yet, the CRU has not issued a final Office action in the ‘228 case. The CRU’s position in that final Office Action may well be relevant to the issues in this case.

IPRs challenged the '580 Patent. Seven of them challenged the '228 Patent. *See Exhibit A.* Much of the record in the '228 reexamination is relevant to this reexamination.

The extensive record complicates the numerous issues involved in the appeal. For instance, a first draft of the SNQ issue alone required more than 30 pages of argument and evidence. Rembrandt's counsel is hopeful that, with additional time and review, those arguments can be made more concise for the Board's consideration.

The two-month briefing period began December 18, 2017, and thus included the holiday period, a time when both the in-house and outside counsel responsible for the drafting the appeal brief had family responsibilities. Counsel has nonetheless worked diligently to prepare the appeal brief but still has much work to do. However, a yearly family commitment that could not be modified required outside counsel to be away between January 20 and January 25. That same week, in-house counsel was required to be out of the county for an opposition proceeding. Finally, back-up counsel will be away January 31 through February 5.

For the reasons set forth above, it will be difficult, if not impossible, for counsel and the client to prepare a final draft of the appeal brief that is clear and concise and meets the Board's requirements for appeal briefs by its February 18, 2018, due date.

**B. Several Requests for Reconsideration and a Final Agency Action are Pending and Their Outcome Could Impact Briefing in the Appeal**

Additionally, pending before the Office are two requests for reconsideration and a final agency action relating to two petitions that were dismissed but have not been finally decided. The first request was filed on September 18, 2017 and is described above as the § 325(d) Reconsideration Request. The second request was filed on November 27, 2017 and is described above as the Finality Reconsideration Request. The grant of the § 325(d) Reconsideration

Request would obviate any appeal, and the grant of the Finality Reconsideration Request could clarify and possibly limit the issues to be addressed on appeal.

**C. No Party Will be Prejudiced by Granting the Present Request for Extension of Time**

The discussion above illustrates that there is more than sufficient cause to grant this Request for Extension of Time. For completeness, Rembrandt notes that no party will be prejudiced by its grant.

Petitioner Samsung will not be prejudiced. Samsung has been aware of the '580 Patent since at least March 15, 2013, when Rembrandt filed suit against Samsung for infringement of the '580 Patent. § 325(d) Reconsideration Request, Exhibit 2 at 1. Samsung waited more than three years to file the Request for Reexamination in the present proceeding, waiting until after it failed to invalidate claims 2 and 59 of the '580 patent in district court<sup>2</sup> and in three previous IPR proceedings. *Id., passim*. Given Samsung's *three-year* delay in filing the present proceeding, there can be no argument that Samsung will be prejudiced by the requested *one month* extension of time, if granted.

Rembrandt understands that there are public policy considerations favoring “special dispatch” in *ex parte* reexamination, and public interest in invalidating “bad patents.” The '580 Patent is not such a “bad patent.” As illustrated in the discussion above and in the § 325(d) Request for Reconsideration, the '580 Patent represents an “extreme outlier,” having faced *six* IPR challenges and a challenge in district court (which has been reviewed by the Federal

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<sup>2</sup> All substantive issues have been finally decided in federal court. The district court decided the case in favor of Rembrandt, and the Federal Circuit affirmed the jury's determination that claims 2 and 59 of the '580 Patent and claim 21 of the '228 Patent are not invalid. Samsung did not challenge the jury's infringement findings on appeal. The case was remanded on an issue of damages. *Rembrandt Wireless Techs., LP v. Samsung Elect. Co. Ltd.*, No. 16-1729 (Fed. Cir. 2016).



Circuit), all of which failed to invalidate claims 2 and 59 of the '580 Patent. With such a procedural background, it is clear that the public would not be prejudiced by granting the requested one-month extension of time after so many years of failed challenges to the '580 Patent.

### **III. Conclusion**

In light of the above, Rembrandt respectfully submits that sufficient cause exists to grant Rembrandt a one-month extension of time, extending the due date for filing Rembrandt's appeal brief from February 18, 2018, to March 18, 2018.

To the extent the Office believes any rules prevent consideration of this request, Rembrandt further petitions the Director to suspend such rules under the power granted to the Director by 37 C.F.R. § 1.183.

Submitted currently herewith is the requisite fee pursuant to 37 C.F.R. § 1.17(g). Any additional fee required for submission of this request may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: January 26, 2018

By: /Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932  
**ROTHWELL, FIGG, ERNST  
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*Attorney for Patent Owner  
Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.  
*Counsel for Patent Owner  
Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 26th day of January, 2018, the foregoing **REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.550** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90013808
<b>Filing Date:</b>	12-Sep-2016
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Attorney Docket Number:</b>	3277-0114US-RXM1

Filed as Large Entity

**Filing Fees for ex parte reexam**

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PETITION FEE- 37 CFR 1.17(G) (GROUP II)	1463	1	200	200
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>200</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	31613798
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	26-JAN-2018
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	11:51:57
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$200
RAM confirmation Number	012618INTEFSW00017061022135
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reexam Request for Extension of Time	EOTRequest1.pdf	61176	no	8
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**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30710	no	2
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**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	91886
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Row 1: 90/013,808, 09/12/2016, 8023580, 3277-0114US-RXM1, 2211
Row 2: 6449, 7590, 01/29/2018, [EXAMINER], [PAPER NUMBER]
Row 3: [ROTHWELL, FIGG, ERNST & MANBECK, P.C.], GE, YUZHEN, [ART UNIT], [PAPER NUMBER]
Row 4: [607 14th Street, N.W.], [MAIL DATE], [DELIVERY MODE]
Row 5: [SUITE 800], 01/29/2018, PAPER
Row 6: [WASHINGTON, DC 20005]

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

ROPES & GRAY LLP  
PRUDENTIAL TOWER  
IPRM DOCKETING -FLOOR 43  
800 BOYLSTON STREET  
BOSTON, MA 0199-3600

**JAN 29 2018**

**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,808.

PATENT NO. 8,023,580.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).



<b>Decision on Petition for Extension of Time in Reexamination</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	90/013,808	8,023,580	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yuzhen Ge	3992	

1. THIS IS A DECISION ON THE PETITION FILED January 26, 2018.

2. THIS DECISION IS ISSUED PURSUANT TO:

- A.  37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
- B.  37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
- C.  37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS

Patent owner requests that the period for filing an Appeal brief in response to the Notice of Appeal filed December 18, 2017, which pursuant to 37 CFR 41.37 sets a two (2) month period for filing a the appeal brief, be extended by an additional one (1) month.

- A. Petition fee per 37 CFR §1.17(g):
  - i.  Petition includes authorization to debit a deposit account.
  - ii.  Petition includes authorization to charge a credit card account.
  - iii.  Other \_\_\_\_\_.
- B.  Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
- C.  Petition was timely filed.
- D.  Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)

- A.  Granted or  Granted-in-part for one (1) month because petitioner provided a factual accounting that established sufficient cause. (See 37 CFR 1.550(c) and 37 CFR 1.956).
  - i.  Other/comment:
- B.  Dismissed because:
  - i.  Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
  - ii.  Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
  - iii.  Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
  - iv.  The statements provided fail to establish sufficient cause to warrant extension of the time for taking action.
  - v.  The petition is moot.
  - vi.  Other/comment: \_\_\_\_\_

5. CONCLUSION: **Patent Owner's Appeal Brief is due March 18, 2018.**

Telephone inquiries with regard to this decision should be directed to Stephen Stein at 571-272-1544 in the CRU.

/Stephen Stein/  
Supervisory Patent Reexamination Specialist  
Central Reexamination Unit

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	32092360
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	19-MAR-2018
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	15:57:58
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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1	Reexam Miscellaneous Incoming Letter	ExhibitA.pdf	56862 <small>e21dcff49d93af5ff6aa8558c166ffe4ef0f7ac</small>	no	8

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**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	16003352
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

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**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE  
PATENT TRIAL AND APPEAL BOARD**

Control No.	: 90/013,808	Art Unit	: 3992
Patent No.	: 8,023,580	Examiner	: Yuzhen Ge
Filed	: September 12, 2016	Conf. No.	: 2211
Customer No.	: 06449	Atty. No.	: 3277-114.RXM1

Title: SYSTEM AND METHOD OF COMMUNICATION USING  
AT LEAST TWO MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
Central Reexamination Unit  
Commissioner for Patents  
United States Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

This is an appeal to the Patent Trial and Appeal Board (the “Board”) from the Final Office Action, dated July 18, 2017, finally rejecting claims 2 and 59 in the *ex parte* reexamination proceedings of U.S. Patent No. 8,023,580 (the “580 patent”). Please charge any additional fees to Deposit Account No. 022135.

A Notice of Appeal was timely filed on December 18, 2017. In a Decision dated January 29, 2018, the CRU granted a one-month extension of the period for filing an appeal brief, which extended the appeal brief due date from the original date of February 18, 2018, to March 18, 2018. With March 18, 2018, falling on a Sunday, this Appeal Brief is being timely filed on Monday, March 19, 2018.

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A	Timeline of Rembrandt Litigation, IPRs and Reexaminations	-
B	Declaration of Dr. Robert Akl (executed June 29, 2017) (“Akl I”)	June 30, 2017
C	Comparison of the Requester’s Presentation of Snell’s Fig. 3 and Boer’s Fig. 4	June 30, 2017
D	Comparison of Cited Portions of Snell with Substantially Identical Portions of Boer	June 30, 2017
E	Comparison of Samsung’s Arguments in the ‘808 Reexamination Request and Samsung’s Arguments in IPR2015-00114	Sept. 18, 2017
F	Claim Construction Order in <i>Rembrandt Wireless Tech. v. Samsung Elecs. Co.</i>	June 30, 2017
G	Supplemental 37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (executed Sept. 14, 2017) (“Akl II”)	Sept. 18, 2017
H	<i>Ex parte Muzzy Prods. Corp.</i> , No. 2009-011350, 2010 WL 3448876 (BPAI Aug. 31, 2010)	-
I	<i>Ex parte Hosoi</i> , No. 2010-005212, 2012 WL 889723 (BPAI Mar. 7, 2012)	-
J	<i>Ex parte David Chater-Lea</i> , No. 2009-001115, 2010 WL 665664 (BPAI Feb. 22, 2010)	-
K	<i>Google, Inc. v. Function Media, L.L.C.</i> , No. 2011-010724, 2012 WL 1891077 (BPAI May 22, 2012)	-
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Y	<i>Oxford Nanopore Techs. Ltd. v. Univ. of Washington and UAB Research Found.</i> , IPR2014-00512, 2014 WL 4644357 (PTAB Sept. 15, 2014)	-
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**I. REAL PARTY IN INTEREST**

The real party in interest is Rembrandt Wireless Technologies, LP.



## **II. RELATED APPEALS, INTERFERENCES, AND TRIALS**

Related to this *ex parte* reexamination (Control No. 90/013,808) of U.S. Patent No. 8,023,580 (“‘580 Patent”) is ongoing *ex parte* reexamination (Control No. 90/013,809) of U.S. Patent No. 8,457,228 (the ‘228 Patent) (child of the ‘580 Patent), 13 *inter partes* reviews (now concluded), and one district court litigation, which was appealed to the Federal Circuit and affirmed (now concluded with respect to the infringement and validity issues). These are listed and further identified on Exhibit A. Several related petitions remain outstanding. *See* Exhibit A at 6-7 (describing outstanding petitions filed June 8, 2017; September 18, 2017; October 27, 2017; and November 27, 2017).

### **III. SUMMARY OF THE CLAIMED SUBJECT MATTER**

#### **A. Claims on Appeal**

Claims 2 and 59 of the '580 Patent are the subject of this *ex parte* reexamination and are argued together. In their entirety, they read:

2. [A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method, wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence],

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

59. [A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, and wherein the transceiver is configured to transmit messages with:

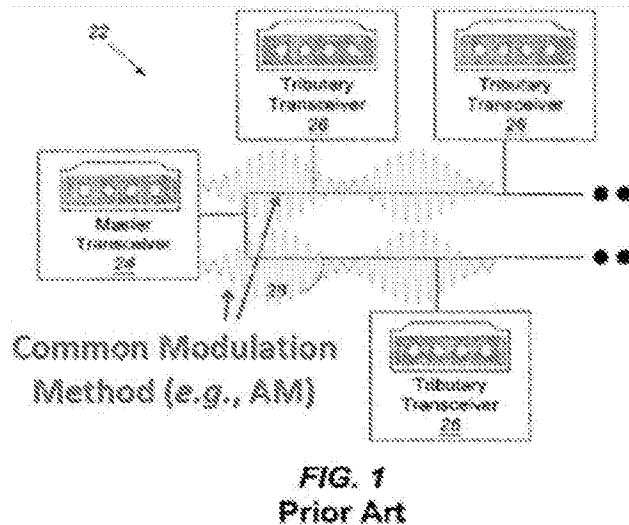
a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence],

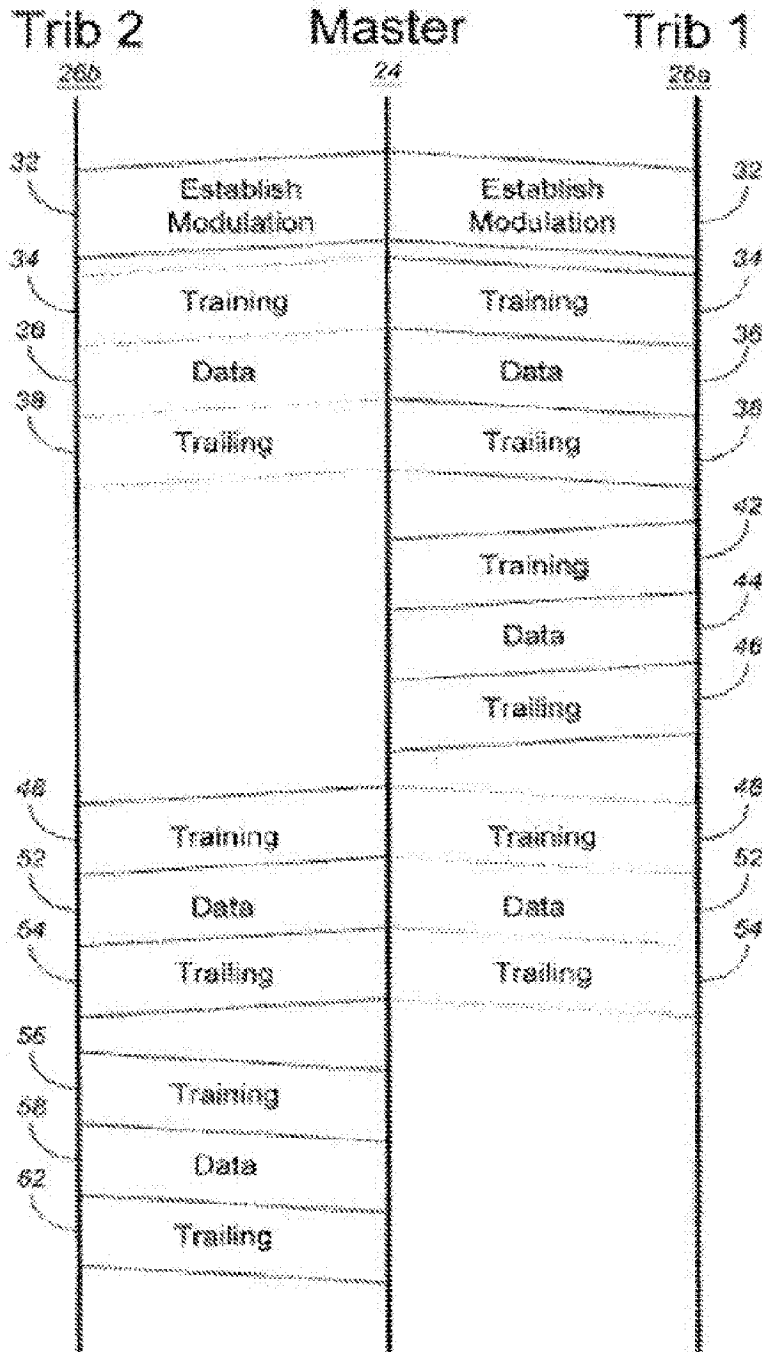
wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

## **B. Summary of the State of Master/Slave Art Prior to the '580 Invention**

According to the '580 Patent, prior art master/slave systems could only communicate when all network devices used a single common type of modulation method. *See* '580 Patent at 1:27-65, 3:40-48. Thus, if a slave using an additional type of modulation method were added to the network, the new slave could not easily communicate with the master using the different modulation type because it would not be compatible with the common type of modulation method. *Id.* Annotated FIG. 1 of the '580 Patent shows such a prior art master/slave system, where all devices in the network communicate using only a single common type of modulation method (such as the amplitude modulation used by AM radio), even though some of the devices may be capable of communication via other types of modulation methods:



The state of master/slave art prior to the '580 invention is described in the '580 Patent at col. 3, l. 40-col. 4, l. 50, with reference to FIG. 2. See 37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (executed June 29, 2017) ("Akl I") (Exhibit B), at ¶¶ 78-80 (describing these '580 teachings from the perspective of a skilled artisan).



**FIG. 2**

Briefly, FIG. 2 discloses a polled multipoint master/slave system. At the beginning of a session, the master established a common modulation type for communication with all its slaves (sequence 32 in FIG. 2). All slaves were identical in that they shared a common modulation with the master.

The master then communicated with its slaves, one at a time, by sending a training sequence with the address of the slave with which it wants to communicate, followed by data, and finally a trailing sequence to end the communication (sequences 34-38 in FIG. 2). A slave could not initiate a communication, but, if the slave were polled by the master, it could respond to the master in a similar fashion (sequences 42-46 in FIG. 2). When the master had completed its communications with the first slave, it could then communicate with a second slave using the *same* negotiated common modulation (sequences 48-54 in FIG. 2). Akl I, at ¶ 80.

## **C. Summary of the Problems Identified and Solved by the Claimed Invention**

### **1. The Problems Identified in the '580 Patent**

The claimed invention was designed to address the problems that resulted when different types of tribes (e.g., Type A and Type B, as described in the specification) sought to communicate using different modulation types. With reference to FIG. 2, the problems Gordon Bremer both identified and solved are described in his detailed description as follows:

Consider the circumstance in which master transceiver 24 and trib 26b share a common modulation type A while trib 26a uses a second modulation type B. When master transceiver attempts to establish A as a common modulation during sequence 32, trib 26a will not be able to understand that communication. Moreover, trib 26a will not recognize its own address during training interval 34 and will therefore ignore data 36 and trailing sequence 38. Master transceiver 24 may time out waiting for a response from trib 26a because trib 26a will never transmit training sequence 42, data 44, and trailing sequence 46 due to the failure of trib 26a to recognize the communication request (training sequence 34) from master transceiver 24. Thus, if the tribes in a multipoint communication system use a plurality of modulation methods, the overall communication efficiency will be disrupted as specific tribes will be unable to decipher certain transmissions from the master transceiver and any unilateral transmission by a trib that has not been addressed by the master transceiver will violate the multipoint protocol.

'580 Patent at 4:55-5:6.

Summarizing the problems inventor Bremer was first to identify:

- a) If a prior art master wanted to communicate with a slave using a second modulation method that was of a different type than that used to communicate with its other slaves (“wherein the second modulation method is of a different type than the first modulation method”), it was necessary to tear down the session and begin a new session. Doing so was disruptive.
- b) If the prior art master attempted to communicate using a different modulation type without beginning a new session, the other slaves would not understand the attempted communications and would not respond to any communications directed at them, resulting in repeated attempts by the master to communicate. In addition, the slaves could become confused by the transmissions and make improper communication attempts.

One of ordinary skill in the relevant art would have understood that FIG. 2 and its description do not disclose and would not have suggested the above-described problems, or even the goal of using different types of modulations in one master/slave session. Akl I, at ¶¶ 81-83.

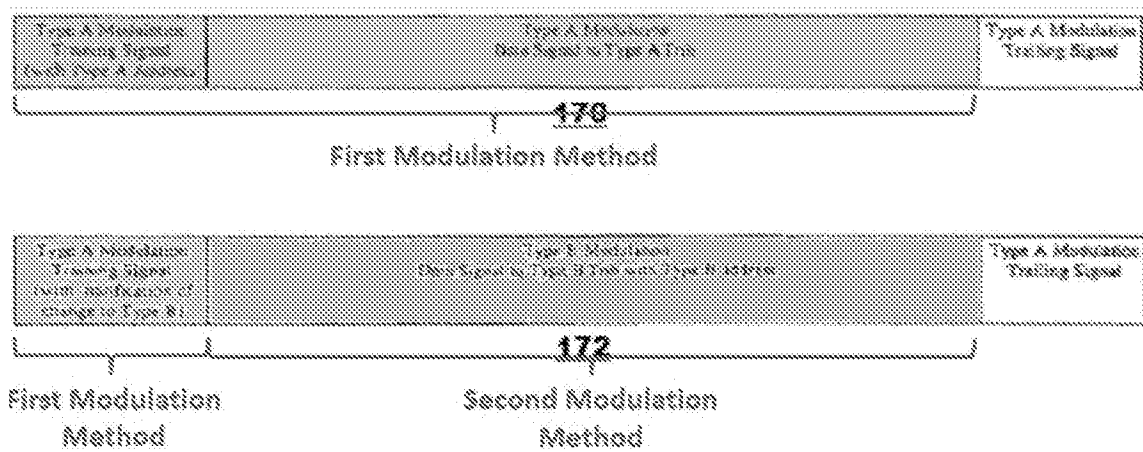
## **2. The ‘580 Solution to These Problems in a Master/Slave Setting**

In the context of the master/slave system described above, Gordon Bremer invented “a system and method of communication in which multiple modulation methods are used to facilitate communication among a plurality of modems in a network, which have heretofore been incompatible.” ‘580 Patent at 2:17-20. Mr. Bremer solved the above-described problems with his claimed master/slave communication system in which slaves can seamlessly communicate over a network through a master using multiple types of modulation methods, thereby permitting selection of the modulation type best suited for a particular application. ‘580 Patent at 1:66-2:33; Akl I, at ¶ 84.

The claimed invention of the ‘580 Patent is further described with reference to FIG. 2 and in FIGs. 3-8 and the written description. Specifically, FIGs. 3 and 4 show block diagrams of the master transceiver and tributary transceivers, while FIG. 5 shows a ladder diagram illustrating

the operation of those transceivers. FIGs. 6 and 7 show state diagrams for exemplary tributary transceivers. And FIG. 8 shows a signal diagram for exemplary transmissions. Akl I, at ¶ 85.

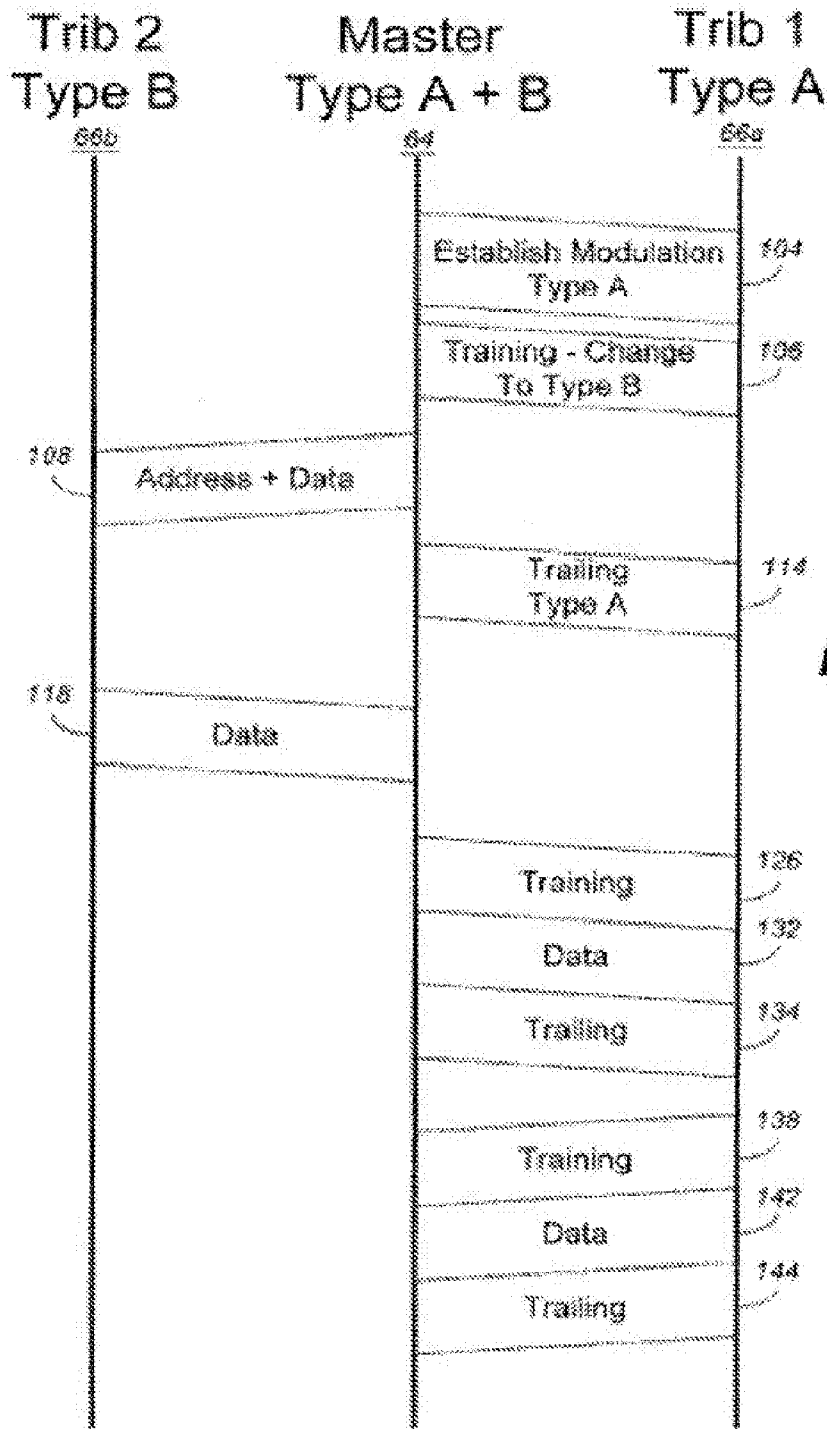
Annotated FIG. 8 shows two communications intended for different slaves. The first communication 170 uses a first type of modulation method for both the initial training signal and the subsequent data signal, while communication 172 uses the first type of modulation method for the training signal and the second type of modulation method for the data signal:



‘580 Patent at 4:21-24, 4:42-44, FIG. 8. Information in the training signal indicates whether there will be an impending change from the first type of modulation method to the second type of modulation method. *Id.* (training signal includes “notification of change to Type B” modulation method). Akl I, at ¶ 87.

Mr. Bremer’s solution to the problems described above is captured in the language of claims 2 and 59 and described in the ‘580 specification with reference to FIG. 5:





**FIG. 5**

With reference to FIG. 5 and claim terms in *italics*, if the Master is communicating with a Type A trib (“Trib 1 Type A”) using a negotiated first modulation type A in the normal fashion and then wants to communicate with a Type B trib (“Trib 2 Type B”), the Master transmits “*first*

*information*” comprising a *“first sequence”* modulated according to the *“first modulation method”* (one that the Type A trib understands) that *“indicates an impending change”* to a *second modulation method* (illustrated as training sequence 106). The Master then transmits to the Type B trib *“second information for at least one group of transmission sequences compris[ing] a second sequence that is modulated according to the second modulation method,”* which is *“a different type than the first modulation method.”* In the FIG. 5 embodiment, the *“second sequence”* is illustrated as transmission sequence 108 and uses the second type modulation method, i.e., one that the Type B trib can understand and Type A cannot. Akl I, at ¶ 88.

It is at this point that the *“third sequence”* limitations of claims 2 and 59 come into play. To satisfy the limitations of claims 2 and 59, the transceiver must be *“configured to transmit a third sequence after the second sequence wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.”* Akl I, at ¶ 89.

Again, referring to FIG. 5, after the Master completes its communication with a Type B trib using Type B modulation (transmission sequence 108), claims 2 and 59 require that the Master send a *“third sequence”* to inform Type A trib that *“communication from the master has reverted to the first modulation method”* (illustrated as sequences 114, 126-132). Akl I, at ¶ 90.

The ‘580 specification describes Mr. Bremer’s *“switches”* between modulation types as follows:

To switch from type A modulation to type B modulation, master transceiver 64 transmits a training sequence 106 to type A trib 66a in which these trib 66a are notified of an impending change to type B modulation. ... After notifying the type A trib 66a of the change to type B modulation, master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b. .... [Col. 6, ll. 3-12]

... If, however, master transceiver transmits a training sequence in which the type A trib 66a-66a are notified of a change to type B modulation as indicated by sequence 106, then a transition is made to state 124 where all type B transmissions are ignored until a type A modulation trailing sequence (e.g., sequence 114) is detected. Upon detecting the type A trailing sequence, a type A trib 66a returns to state 122 where it awaits a training sequence. [Col. 6, ll. 41-48]

To initiate a communication session with a type A trib 66a, master transceiver 64 transmits a training sequence 126 in which an address of a particular Type A trib 66a is identified. The identified Type A trib 66a recognizes its own address and transitions to state 128 to receive data from master transceiver 64 as part of sequence 132. [Col. 6, ll. 49-54]

Thus, with reference to FIG. 5 (and using the language of claims 2 and 59), Mr. Bremer's switches include:

a) "*a first sequence*" (e.g., training sequence 106) sent by the master using the "*first modulation method*" to inform the Type A trib of "*an impending change from the first modulation method to the second modulation method*" -- one that is incompatible with the first -- telling Type A trib to ignore the second message's "second sequence" which they cannot understand and is not intended for them;

b) "*a second sequence*" (e.g., transmission sequence 108) sent by the master using the second, incompatible modulation method to the Type B trib -- one that does understand the communication; and

c) "*a third sequence*" (e.g., trailing sequence 114, and sequences 126-132) sent by the master using the "*first modulation method*" to inform Type A trib that "*communication from the master has reverted to the first modulation method.*"

Akl I, at ¶ 92. The combination of Gordon Bremer's claimed sequences captures his solution to the problems he identified, i.e., switching from one modulation type to another incompatible modulation type when switching from one trib type to another in a master/slave setting. None of the cited references discloses or would have suggested either the problem Mr. Bremer set out to

solve in the master/slave setting, or his solution to that problem. *See* '580 Patent at 5:57-7:3 (describing FIG. 5); Akl I, at ¶ 93.

#### **IV. ART RELIED ON IN THE FINAL OFFICE ACTION AND ADVISORY ACTION**

The CRU relies on one or more of the following references to support its SNQs and each of its three grounds of rejection:

- a. U.S. Patent No. 5,982,807, filed on Mar. 17, 1997 and issued on Nov. 9, 1999, to Snell, J. (“Snell”) (including the alleged incorporation by reference of Andren, C. et al., “Using the PRISMTM Chip Set for Low Data Rate Applications,” Harris Semiconductor Application Note No. AN9614 (“Harris AN9614”) and “HSP3824 Direct Sequence Spread Spectrum Baseband Processor,” Harris Semiconductor File No. 4064.4 (“Harris 4064.4”));
- b. U.S. Patent No. 6,075,814, filed on May 9, 1997 and issued on June 13, 2000, to Yamano, L., et al. (“Yamano”); and
- c. Kamerman, A., “Throughput Density Constraints for Wireless LANs Based on DSSS,” IEEE 4th International Symposium on Spread Spectrum Techniques and Applications Proceedings, Mainz, Germany, Sept. 22-25, 1996, pp. 1344-1350 vol. 3 (“Kamerman”).

## V. ISSUES TO BE REVIEWED ON APPEAL

Patent Owner Rembrandt (“Rembrandt”) respectfully asks the Board to consider the issues identified below in view of Rembrandt’s Summary of the Claimed Subject Matter (§ III above) and Rembrandt’s Arguments (§ VI below).

Notably, only two relatively straight-forward determinations need be made to resolve this case. If the Board determines (1) that the master/slave limitations must be given weight (as they already have been by the PTAB and the courts *and* as they must be in this reexamination<sup>1</sup>) (*infra* at § VI.B) and (2) that Snell’s attempted incorporation by reference of the “polled scheme” of Harris AN9614 failed as a matter of law (*infra* at § VI.E), then *the CRU’s alleged SNQ must be vacated and all its rejections must be reversed.*

The issues are:

1. Whether the CRU has identified a *substantial new question of patentability* (“SNQ”) based on art that is *at best* cumulative of art previously considered by the Office during multiple IPR proceedings – art that previously presented substantially the same issues and arguments presented in this reexamination. *See infra* at § VI.A; Akl I, at ¶¶ 41-70.
2. Whether the CRU has given claims 2 and 59 their broadest *reasonable* construction (1) by failing to give patentable weight the multiple master/slave limitations, (2) by misconstruing modulation methods “of a different type” in view of the prosecution history and contrary to the Federal Circuit’s determination, and (3) by treating the claims as “single means” claims. *See infra* at § VI.B-C; Akl I, at ¶¶ 20-26.

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<sup>1</sup> The CRU’s position regarding the master/slave limitations ignores the claim language, the teachings in the specification, and the long history of scrutiny of the ‘580 Patent (and its child, the ‘228 Patent). *See* Exhibit A. No one – not the PTAB during 13 IPRs, not the district court, not the Federal Circuit and not even Samsung (the litigation defendant, IPR petitioner, and reexamination requester) – has ever taken such an unreasonable position.

3. Whether Snell's attempted incorporation by reference of Harris AN9614 and Harris 4064.4 (collectively the "Harris Documents") was successful given that the evidence does not establish that they were publicly accessible prior to the '580 Patent's priority date. *See infra* at § VI.E.1-2; Akl I, at ¶¶ 71-73.

4. Even assuming Snell's incorporation had been successful, whether the CRU can rely on completely different sections of Harris AN9614 than those sections Snell identified "with detailed particularity." *See infra* at § VI.E.3; Akl I, at ¶¶ 74-75.

5. Whether the CRU has provided sufficient evidence to establish that the master/slave limitations were disclosed or would have been suggested by any of the art relied on in the three grounds of rejection, alone or combined as the CRU has proposed. *See infra* at § VI.F.1; Akl I, at ¶¶ 77, 101-120.

6. Whether the CRU has provided sufficient evidence to establish that the "at least two types of modulation methods" limitations were disclosed or would have been suggested by any of the art relied on in the three grounds of rejection, alone or combined as the CRU has proposed. *See infra* at § VI.F.2; Akl I, at ¶¶ 121-130.

7. Whether the CRU has provided sufficient evidence to establish that "the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method" limitation was disclosed or would have been suggested by any of the art relied on in the three grounds of rejection, alone or combined as the CRU has proposed. *See infra* at § VI.F.3; Akl I, at ¶¶ 131-151.

8. Whether the CRU has provided sufficient evidence to establish that it would have been obvious to modify or combine the cited art, as the CRU has proposed, given that there

would have been no motivation to do so, and, in fact, one of ordinary skill in the relevant art would have been discouraged from doing so. *See infra* at § VI.G; AkI I, at ¶¶ 152-178.



## VI. ARGUMENTS

### A. The CRU Has Not Identified a Substantial New Question of Patentability

#### 1. Background and Summary

This reexamination is the latest in a series of attacks by Samsung on the ‘580 Patent previously made in court (including the Federal Circuit) and in *six* IPRs.<sup>2</sup> After failing to successfully challenge claims 2 and 59, Samsung turned to the CRU in the face of the PTAB’s adverse determinations in IPR2014-00518 (“‘518 IPR”) and IPR2015-00114 (“‘114 IPR”). *See* Exhibit A for a history of the litigation and the 13 related IPRs. Samsung’s reexamination request merely presented substitute references – ones that are *at best* cumulative of the Boer and APA references that it earlier presented to the PTAB – with no explanation why the references were not presented earlier or how they present a substantial new question when compared to those previously presented and considered in the multiple IPRs. In fact, those substitute references do not raise any new issues or arguments that have not already been considered by the Office.

Rembrandt uses the phrase “at best cumulative” because the APA and Boer (relied on by the PTAB in multiple IPRs) expressly disclose subject matter that is not disclosed in the art now relied on by the CRU (including a master/slave relationship and the modulation method PPM/DQPSK) to find claims 1 and 58 unpatentable. *See* ‘518 IPR Final Written Decision (Exhibit II), at 13 (referring to the APA and agreeing that “the ‘580 patent’s disclosed multipoint communication systems (or master/slave systems) ... contains material that may be used as prior art against the patent under 35 U.S.C. § 103 (a)”), 19 (“Boer describes PPM/DQPSK modulation, which falls within the meaning of a “different type” of modulation method, with

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<sup>2</sup> Samsung has also attacked the child of the ‘580 Patent, i.e., the ‘228 Patent, in court and in *seven* IPRs without success as to claim 21.

respect to DBPSK, under our construction of the term”). However, the PTAB determined that the APA and Boer – as presented by Samsung -- were *not* sufficient to support Samsung’s position that claims 2 and 59 were unpatentable. *See* ‘518 IPR Institution Decision (Exhibit HH), at 13-15.

Based on an overly broad claim construction (*see infra* at § VI.B) and without considering whether Samsung’s substitute references presented a substantial new question of patentability when compared to those already considered by the PTAB, the CRU ordered reexamination of claims 2 and 59. It has maintained its position throughout the reexamination based on its conclusion that it does not have to consider the PTAB’s Institution Decision in a previously completed IPR, *i.e.*, the ‘518 IPR. In Rembrandt’s view, that was a legal error that should be corrected by the Board.

The CRU identified four alleged SNQs in its Order, all based on Snell *alone*. *See* Order at 8-11. The CRU maintained the same position on reconsideration of this issue. *See* Final Office Action (“FOA”) at 17; Advisory Action (“AA”) at 14.<sup>3</sup> In concluding that Snell raised an SNQ, the CRU did not compare the issues raised and arguments made by Snell compared to those previously raised and made before the Office and considered in multiple IPRs of the ‘580 Patent but instead reasoned:

Because Snell was not cited or before the Office during prior prosecutions of the 580 patent and related patents and during prior inter partes review of the 580 patent, Snell in combination with other references are not before the Office prior to the instant reexamination. Accordingly, Snell in combination with other

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<sup>3</sup> While not clear, Rembrandt anticipates that the CRU will rely on Snell’s attempted incorporation by reference of Harris AN9614 to argue that the master/slave limitations are disclosed or would have been suggested by Harris AN9614’s “polled scheme.” *See* FOA 16. Thus, for purposes of showing that the CRU has not identified an SNQ only, Rembrandt assumes Harris AN9614 could be considered. *But see* the discussion at § VI.E (establishing that Snell’s attempted incorporation failed) and at § VI.F.1.c (establishing that Harris AN9614 did not disclose and would not have suggested the master/slave limitations).

references can be used to raise a substantially new question of patentability in the *ex parte* reexamination proceeding.

Order at 4. *See also* FOA at 19 (“Conclusion: Because Snell has never been considered prior to the instant reexamination proceeding ..., the SNQs ... are fully supported by MPEP 2216 and 2242.”).

In fact, the CRU has not identified a substantial new question of patentability because “*the same question of patentability has already been ... decided in an earlier concluded ... review of the patent by the Office ...*” MPEP § 2242 (emphasis added) (relied on by the CRU). In its now concluded ‘518 IPR, the PTAB considered *the same issues and same arguments* presented by Samsung based on the APA and Boer and decided in its ‘518 IPR Institution *Decision* that it was “not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge” of claims 2 and 59. ‘518 IPR Institution Decision (Exhibit HH), at 15 (quoted more extensively below).

**2. The Burden Is on the Office to Establish that Snell Presents New Issues and Arguments Rather than Those Previously Considered by the Office**

The CRU has not met its burden to establish that Snell presents issues and arguments that were not previously fully considered by the Office. Instead the CRU has taken the following positions:

a) “Snell presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record *during the prosecution of the application that resulted in the patent for which reexamination is requested* (see Sep 2016 Order, pp. 9-11)”;

b) “[I]n all the previous IPRs, ... PTAB did not institute review of claims 2 and 59 and therefore the teaching presented by Snell regarding claims 2 and 59 is new and non-cumulative”;  
and

c) “Although the reference of Boer is similar to Snell, there is no provision in MPEP that requires comparing two prior art references [to determine] if one is cumulative to another to determine if a SNQ exists for claims that have not been reexamined before.” FOA at 17 (emphasis CRU’s). *See also* AA at 14-15 (containing the same language).

The CRU’s positions ignore the burden placed on it by *statute* to establish that a *substantial new question of patentability* has been raised. *See* 35 U.S.C. § 303(a) and its legislative history (quoted below). It is simply not enough to point to “new” art that was not previously considered by the Office. The MPEP sections cited and quoted by the Office support Rembrandt’s position, not the CRU’s. *See* MPEP § 2242 (No SNQ when “the same question of patentability has already been ...decided in an earlier concluded ... review of the patent”); MPEP § 2216 (“It must first be demonstrated that a patent or printed publication ... presents a new, non-cumulative technological teaching that was not *previously considered and discussed* on the record ... *during the prosecution of any other prior proceeding* involving the patent for which reexamination is requested.”) (emphasis added). “[A]ny other proceeding” necessarily and logically includes PTAB IPR proceedings.

The CRU’s positions also ignore the legislative history of 35 U.S.C. § 303(a). That legislative history makes clear that § 303(a) was intended to protect against the very type of repetitive challenges at issue here. In amending the reexamination statute, Congress stated:

[T]his bill is not a license to abuse patentees and waste the life of a patent. The point must be stressed that the past requirement of “a substantial new question of patentability” has not been diminished.... The bill preserves the necessary safeguard in the Patent Act against harassment of patentees with the safety-valve of a “substantial new question of patentability” standard, not merely “any sort of question.” The agency has discretion in this determination to permit reexamination, but it is not absolute. ... [T]he courts should judiciously interpret the “substantial new question” standard to prevent cases of abusive tactics and harassment of patentees through reexamination.

H.R. Rep. 107-120 (2001).

The CRU's positions also ignore the case law interpreting § 303(a) and reconfirming that “an argument already decided by the Office ... cannot raise a new question of patentability.” *In re Swanson*, 540 F.3d 1368, 1380 (Fed. Cir. 2008) (cited in *Ex parte Lam Research Corp.*, No. 2012-009622, 2013 WL 1178196, at \*5 (PTAB Mar. 18, 2013) (Exhibit P)). In *Swanson*, the Federal Circuit clarified that the focus of the SNQ inquiry is not on whether a particular reference was or was not previously considered but rather on what question was considered:

The 2002 amendment [to 35 U.S.C. § 303(a)] *removes the focus of the new question inquiry from whether the reference was previously considered, and returns it to whether the particular question of patentability presented by the reference in reexamination was previously evaluated by the PTO.* As was true before the amendment, an “argument already decided by the Office ... cannot raise a new question of patentability. H.R.Rep. No. 96–1307(I), U.S.Code Cong. & Admin.News 1980, pp. 6460, 6466; *see also* H.R.Rep. No. 107–120, at 3 (explaining that the amendment did not diminish the “substantial new question requirement” and that “[t]he issue raised must be more than just questioning the judgment of the examiner.”).

*Swanson*, 540 F.3d at 1380 (emphases added). *See also id.* at 1376 (quoting H.R.Rep. No. 107-120) (“According to the House Report accompanying the Bill, under the amended § 303(a), ‘the appropriate test to determine whether a “substantial new question of patentability” exists should not merely look at the number of references or whether they were previously considered or cited but their combination in the appropriate context of a new light as it bears on the question of the validity of the patent.’”); MPEP § 2242 (quoted above). Where, as here, a previously considered prior art *teaching* is being considered again for the same or similar purpose in reexamination, no substantial new question exists. *See Ex parte Muzzy Prods. Corp.*, No. 2009-011350, 2010 WL 3448876 at \*6 (BPAI Aug. 31, 2010) (Exhibit H). Thus, the CRU's finding that Snell was not previously before the Office is not sufficient to conclude that Snell raises an SNQ.

The CRU does not dispute that the present reexamination is nothing more than a redressed version of the prior failed IPR challenges. Permitting such a repetitive challenge to proceed simply cannot be harmonized with Congress's intent or decisions of the Federal Circuit. *See, e.g., In re Recreative Techs. Corp.*, 83 F.3d 1394, 1396 (Fed. Cir. 1996) (“the reexamination statute was designed to exclude repeat examination on grounds that had already been successfully traversed.”).

As set forth above, Congress emphasized that the substantial new question should be “judiciously interpreted.” H.R. Rep. 107-120 (2001). However, instead of doing so in this case, the CRU posits that PTAB decisions made in an institution decision denying review do not have to be considered in deciding whether an SNQ has been raised. *See, e.g.,* FOA at 17 (quoted above). The CRU does not cite any statute, regulation, or case law that supports its position. In fact, an institution *decision* denying review is a “final Board *decision*.” 77 Fed. Reg. 157, at 48702 (discussing IPR regulations) (emphasis added). Again, if “the same question of patentability has already been ... decided in an earlier review by the Office” it cannot support an SNQ. MPEP § 2242 (relied on by the CRU). Thus, as long as the IPR has been concluded, *decisions* made by the Office during the IPR proceeding must be considered.

Under the Office's illogical reasoning, in its Request for Ex Parte Reexamination of U.S. Patent No. 8,023,580 (“‘580 Reexam Request”), Samsung could have relied on the *same* art (Boer and APA) and made the *same* arguments with respect to claims 2 and 59 as it made in the ‘518 and ‘114 IPRs and still established an SNQ. That cannot be the case, as such a result would be glaringly wrong and grossly unfair to Rembrandt. The CRU's position also is contrary to the purpose of requiring a substantial new *question, i.e.*, to guard against repetition of issues and arguments that have been previously raised and overcome. Thus, the CRU cannot establish a

substantial new question by advancing a previously rejected interpretation of substantially the same teachings to reach a different conclusion.

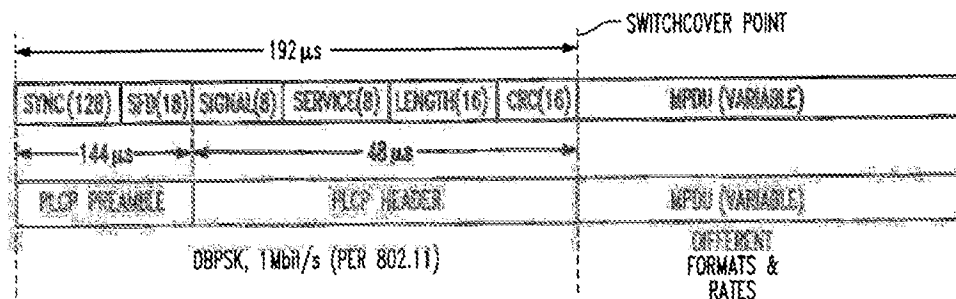
Again, the issue is not whether the art is newly cited but rather whether the issues it raises have already been considered and decided by the Office. The Office is required to make that determination to decide whether an SNQ has been raised. In any case, certainly, once Rembrandt presented evidence establishing a *prima facie* case that Snell is no more than cumulative to Boer (or Boer and APA), the CRU had an obligation to rebut that evidence by pointing out how Snell raised issues or arguments that previously had not been raised and considered. It did not do so but rather simply maintained the position that it did not have to do so. In fact, it could not have done so for the reasons given below. Snell is *at best* cumulative of Boer (or APA and Boer) and is being considered in the same way that Boer was considered in a number of IPRs of the '580 Patent, including the '518 IPR. Thus, nothing in Snell is sufficient to create a substantial new *question* (even assuming incorporation by reference of Harris AN9614). See Akl I, at ¶¶ 41-62.

### **3. Snell Is At Best Cumulative to Previously-Considered Boer**

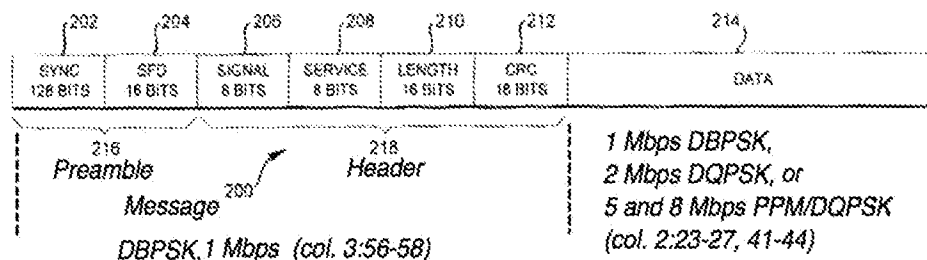
The issues raised by and arguments based on Snell are substantially the same as those based on Boer (or on the APA and Boer). As an initial matter, both Snell and Boer proposed similar extensions to what became known as the 802.11 standard (or WiFi), namely adding two higher data rates to the 1MB/s and 2MB/s data rates in the standard. Both references use the packet structure defined by the standard, including packet headers with the same fields.

The CRU relies heavily on Snell's FIG. 3 and its description of these packet structures as providing the additional limitations of claims 2 and 59. Order at 8-11 (citing to FIG. 3 seven times in four pages). Substantially identical packet structures, described in Boer and Boer's FIG. 4, were fully considered by the PTAB in the '518 IPR and found unlikely to render unpatentable

claims 2 and 59 of the '580 Patent. See '518 IPR Institution Decision (Exhibit HH) at 13-15 & 17 (quoted *infra* at § VI.A.4). Compare Snell's FIG. 3 with Boer's FIG. 4:



(Snell) FIG. 3



(Boer) FIG. 4

Comparing Snell's FIG. 3 with Boer's FIG. 4 and their corresponding descriptions makes clear that Snell adds nothing to Boer.<sup>4</sup> This comparison demonstrates that Snell is *at best* cumulative to Boer. See Akl I, at ¶¶ 47-54.<sup>5</sup> And this is not at all surprising as both Snell and Boer are directed to the packet structure standardized in the 802.11 standard.

More specifically, in ordering *ex parte* reexamination of the '580 Patent, the CRU found:

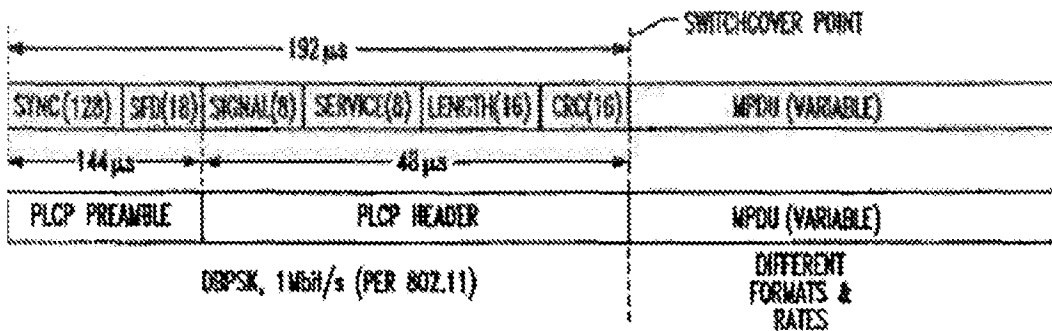
Snell discloses a transceiver that serves as an access point for communicating data with other transceivers connected to a wireless local area

<sup>4</sup> FIG. 4 has been annotated with its description in the specification to illustrate the striking similarities between Snell's FIG. 3 and Boer's FIG. 4. The additions to FIG. 4 are simply the terms "Preamble," "Header," "Message," "DBPSK, 1 Mbps (col. 3:56-58)," and the 4 possible data rates for sending the data, "1 Mbps DBPSK, 2 Mbps DQPSK or 5 and 8 Mbps PPM/DQPSK (col. 2:23-27, 41-44)."

<sup>5</sup> See also Exhibit C (comparing the way Samsung presented Snell's FIG. 3 and Boer's FIG. 4).



network (WLAN). Snell at col. 4, lines 42- 47 and col. 5, lines 18-21. Snell's transceiver transmits data packets intended for another transceiver, where the communication may switch on-the-fly between a "first modulation method" (e.g., BPSK) and a "second modulation method" (e.g., QPSK) that is "of a different type than the first modulation method." (col. 2, lines 27-30, "It is another object of the invention to provide a spread spectrum transceiver and associated method to permit operation at higher data rates and which may switch on-the-fly between different data rates and/or formats." col. 7, lines 10-14, "The variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in FIG. 3, occurs on-the-fly." col. 2, lines 15-17, "Moreover, a WLAN application, for example, may require a change between BPSK and QPSK during operation, that is, on-the-fly.").



**FIG. 3**

-Snell, Fig. 3.

Snell discloses that each data packet transmission comprises a "group of transmission sequences" structured with a "first portion" (e.g., a PLCP preamble and PLCP header) and a "payload portion" (e.g., MPDU data). Id. at col. 6, lines 35-36, col. 6, lines 64-66, col. 7, lines 5- 14, Fig. 3. The PLCP preamble contains SYNC and SFD fields, and the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. Id. at Fig. 3, col. 6, line 48-col. 7, lines 14. The MPDU data is the data to be transmitted to the receiving transceiver. Id. at col. 7, lines 5-6 ("MPDU is serially provided by Interface 80 and is the variable data scrambled for normal operation."); see also Id. at col. 7, lines 6-14, Fig. 3.

Snell teaches that the PLCP preamble and PLCP header are always modulated using the "first modulation method" (e.g., BPSK) (col. 6, lines 35-36, "The header may always be BPSK," Fig. 3). Snell further discloses that "first information in the first portion" (e.g., the SIGNAL field in the PLCP header) "indicates" which of the "first modulation method" (e.g., BPSK) and "second

modulation method" (e.g., QPSK) is used for modulating "second information" in the "payload portion" (e.g., MPDU data).

Snell teaches that the SIGNAL field in the PLCP header can have four values (col. 6, lines 54-59), each of which corresponds to a modulation method for the MPDU data (col. 6, lines 52-59, col. 7, lines 1-2, col. 7, lines 5-14, Fig. 3).

SFD is F3A0h for the PLCP preamble 90. Now relating to the PLCP header 91, the SIGNAL is:

0Ah	1 Mbit BPSK,
14h	2 Mbit QPSK,
37h	5.5 Mbit BPSK, and
6Eh	11 Mbit QPSK.

-Snell, col. 6, lines 52-59.

Order, at 8-9 (emphasis in Order).

Based on these citations of Snell (produced in their entirety above) and using the claimed invention as a roadmap, the CRU drew the following unsupported conclusions:

Snell's transceiver transmits a first group of transmission sequences comprising a "first sequence" (e.g., PLCP preamble and PLCP header) that is "modulated according to the first modulation method" (e.g., BPSK) where the "first sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "14h") the modulation type (e.g., QPSK) used for modulating the "second sequence" (e.g., MPDU data). For the first packet, the "SIGNAL" field in the PLCP header uses a code (e.g., "14h") that "indicates" when the MPDU data is modulated "according to the second modulation method" (e.g., QPSK). The "second modulation method" (e.g., QPSK) "is of a different type than the first modulation method" (e.g., BPSK).

Snell's transceiver then transmits a second packet comprising a "third sequence" (e.g., PLCP preamble and PLCP header) "transmitted in the first modulation method" (e.g., BPSK) where the "third sequence" (e.g., "SIGNAL" field in PLCP header) "indicates" (e.g., using "0Ah") the modulation type (e.g., BPSK) used for modulating the MPDU data of the second packet.

Thus, Snell teaches “transmitting a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.”

Order at 9-11 (emphasis in Order). *See also* FOA at 16 (citing to Order at 7-11); AA at 14 (citing to FOA at 16-17 which in turn cites to Order at 9-11). In fact, the Snell disclosure relied on by the CRU is *substantially identical* to the disclosure in Boer that was fully and repeatedly considered by the PTAB.<sup>6</sup> *See* Exhibit D (comparing the portions of Snell cited by the CRU in its Order with substantially identical portions of Boer). *See also* Akl I, at ¶¶ 41-54.

The CRU does not identify a *single* issue or argument raised by Snell more relevant to the patentability of claims 2 and 59 than those previously raised by Boer (or Boer and APA) and fully considered by the PTAB. In fact, Snell is even *less* relevant than Boer (due to, *inter alia*, lack of any disclosure in Snell of a master/slave relationship, of PPM/DQPSK, or of a destination address<sup>7</sup>), which explains why it was not cited previously during the multitude of IPRs earlier filed against Rembrandt’s ‘580 and ‘228 Patents or during the *Rembrandt v. Samsung* litigation.<sup>8</sup>

**4. Snell is Being Considered in the Same Way that Boer Was Previously Considered by the PTAB and Found Not Sufficient to Even Institute an IPR with respect to Claims 2 and 59**

In its Order, the CRU took the position that the SIGNAL/SERVICE fields of a “subsequent” transmission taught the additional limitations of claims 2 and 59 requiring, e.g.,

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<sup>6</sup> By the time the PTAB finally decided the ‘518 IPR in September 2015, Boer had been cited to the PTAB in at least twelve IPRs. *See* Exhibit A. Thus, the PTAB was very familiar with the Boer teachings.

<sup>7</sup> The relevance of these shortcomings is discussed *infra* at §§ VI.F.1, VI.F.2, and VI.G.4, respectively.

<sup>8</sup> Notably Samsung provided no explanation why Snell could not have been presented earlier.

that the transceiver be “configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” Claim 2. *See* Order 10-11. It has maintained that position throughout reexamination. FOA 16 (citing to Order 7-11); AA 14 (citing to FOA 16-17 which in turn cites to Order 9-11).

In the ‘518 IPR, the Board considered the packet structure disclosed in FIG. 4 of Boer, which, as noted above, is *substantially identical* to that of Snell, and squarely *rejected* the argument now advanced by the CRU, namely, that the SIGNAL/SERVICE fields of a “subsequent” transmission taught the additional limitations of claims 2 and 59:

Claim 2, which depends from claim 1, recites that the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method “and indicates that communication from the master to the slave has reverted to the first modulation method.” Petitioner submits that the recitation is met by material in Boer.

Figure 4 of Boer is reproduced below.

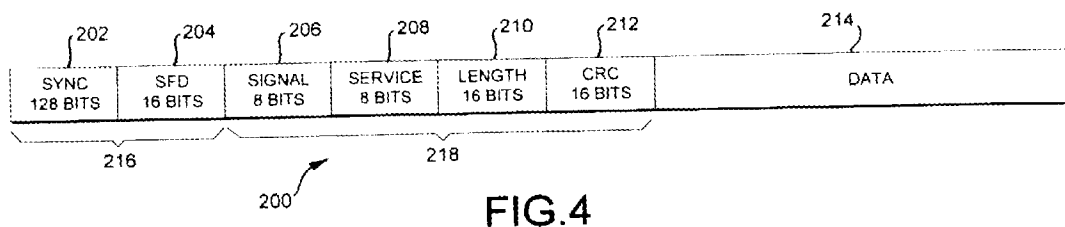


Figure 4 is said to be a diagram illustrating the format of a data message circulating in Boer’s LAN. Ex. 1204, col. 1, ll. 59–60. Message 200 includes preamble 216 and header 218, *always transmitted at the 1 Mbps rate using DBPSK modulation*. Subsequent DATA field 214, however, may be transmitted at *any one of the four rates 1, 2, 5, or 8 Mbps, using the modulation and coding appropriate for the selected rate*. *Id.* at col. 3, ll. 56–62. SIGNAL field 206 has a first value if DATA field 214 is transmitted at the 1 Mbps rate and a second value if the DATA field is transmitted at the 2, 5, or 8 Mbps rate. SERVICE field 208 has a first value for the 1 and 2 Mbps rates, a second value for the 5 Mbps rate, and a third value for the 8 Mbps rate. *Id.* at col. 4, ll. 4–11.

*Petitioner submits that the “first sequence” of base claim 1 corresponds to Boer’s description of SIGNAL field 206 and SERVICE FIELD 208. E.g., Pet. 32 (claim chart). According to Petitioner, the “third sequence” of claim 2 corresponds to a subsequent transmission of SIGNAL field 206 and SERVICE field 208. Pet. 25. Petitioner concludes that the subject matter of claim 2 would have been obvious because header 218 is always transmitted using DBPSK (the “first” modulation method). Id. ....*

\* \* \*

*Petitioner has not provided sufficient evidence or explanation in support of why the fact that Boer’s SIGNAL and SERVICE fields are always transmitted using DBPSK (the “first” modulation method) might demonstrate obviousness of the subject matter of claim 2. Petitioner has failed to show, in particular, how the SIGNAL and SERVICE fields might be deemed, as alleged, to “indicate” that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2.*

....

Claim 59, which depends from independent claim 58, also recites a third sequence that is transmitted in the first modulation method that “indicates” communication from the master to the slave has reverted to the first modulation method. Petitioner submits, correctly, that *Boer teaches that the SIGNAL and SERVICE fields in the header “indicate which modulation method is used to transmit DATA field 218.”* Pet. 49. “When Boer is combined with the APA, it *could therefore indicate* that communication from the master to the slave has reverted to the first modulation method.” *Id.* (citing Ex. 1220 ¶¶ 232–237). Mr. Goodman repeats that “it could therefore indicate” that communication has reverted to the first modulation method (Ex. 1220 ¶ 237) and concludes, “[t]herefore, it is my opinion that claim 59 is obvious in view of the prior art” (*id.* ¶ 238). Although it appears that Petitioner attempts to provide more explanation in its challenge of dependent claim 59, as compared with that of claim 2 or 49, *we are not persuaded there is a reasonable likelihood that Petitioner would prevail in its challenge of any of claims 2, 49, and 59.*

‘518 IPR Institution Decision (Exhibit HH), at 13-15 (denying institution re: claims 2 and 59) (emphasis added). *See* Akl I, at ¶¶ 51-54.

As was the case with Boer, there’s nothing in Snell that *requires* “the third sequence [to be] transmitted in the first modulation method or [to] indicate[] that *communication from the*

*master to the slave has reverted to the first modulation method.*” Claims 2 and 59 (emphasis added). Akl I, at ¶ 53. The fact that “[t]he PLCP preamble and PLCP header are always at 1 Mbit/s,” Snell 6:64-66 (describing Snell’s FIG. 3), does not meet this limitation. Akl I, at ¶ 53. Neither does the fact that Snell’s SIGNAL field in PLCP header has four predetermined values that correlate with four data rates/modulation methods that are used to send the payload, Snell 6:48-59 (also describing Snell’s FIG. 3). Akl I, at ¶ 53. Boer discloses substantially the same information in describing Boer’s FIG. 4. *See* Boer’s FIG. 4 above and its description at 3:42-4:24; Akl I, at ¶ 53; Exhibit D. And the PTAB found that disclosure in Boer inadequate to even institute an IPR with respect to claims 2 and 59, even when combined with the APA.<sup>9</sup> *See* ‘518 IPR Institution Decision (Exhibit HH) (quoted above).

#### **5. Harris AN9614 is Cumulative to Art Previously Considered**

Presuming the CRU is relying on Snell’s attempted incorporation by reference of Harris AN9614 as corresponding to or suggesting the master/slave claim limitations, Harris AN9614 is *less relevant* than the *express* disclosure of a master/slave relationship, including a master and tributaries, in the APA.<sup>10</sup> The PTAB previously fully considered APA with Boer in a number of IPRs of the ‘580 Patent, including the ‘518 IPR, and relied on it as corresponding to the master/slave limitations. Based on the PTAB’s consideration of APA and Boer, it determined that combination was unlikely to be sufficient to render claims 2 and 59 unpatentable. *See, e.g.,*

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<sup>9</sup> The APA considered by the PTAB is described as a “master/slave communications system” in the ‘518 IPR Institution Decision (Exhibit HH), at 7-8. Akl I, at ¶ 47 n. 1.

<sup>10</sup> As explained at length below, the CRU has not established that Snell’s attempted incorporation by reference was successful because, *inter alia*, the evidence does not establish that either Harris AN9614 or Harris 4064.4 (referred to collectively as the Harris Documents) was publicly accessible. *See infra* at § VI.E.1-2. Thus, as a matter of law, they could not be incorporated by reference. Further, the portions of the Harris Documents relied on by the CRU were not incorporated by reference as they are not those portions Snell attempted to incorporate. *See infra* at § VI.E.3.

‘518 IPR Institution Decision (Exhibit HH), at 17 (denying review of claims 2 and 59 based on the APA and Boer) (quoted above); Akl I, at ¶¶ 60-62 (comparing Harris AN9614 with APA).

#### **6. None of the Other Cited Art Raises an SNQ**

For the reasons given above, the issues and arguments presented by Snell and Harris AN9614 are at best cumulative to those previously presented by Boer (or Boer and APA) and fully considered by the PTAB. *See supra*, at § VI.A.3-5; Akl I, at ¶¶ 47-62. As previously noted, the CRU does not rely on any other art to support its SNQs. In any case, none of the other references cited by the CRU supports an SNQ. *See* Akl I, at ¶¶ 63-70.

#### **7. The Substantial Identity of Samsung’s Arguments in its ‘580 Reexam Request to Those It Previously Presented to the PTAB Further Evidences the Lack of Any Substantial New *Question***

As illustrated previously, the teachings of the art relied upon in the current proceeding are substantially the same as those relied upon in Samsung’s completed IPRs. The arguments presented in the current proceeding are also substantially the same as those set forth in Samsung’s completed IPRs. As will be shown in the following, Samsung has not presented the standardized 802.11 packet structure “in a new light or a different way” (MPEP § 2216), and instead simply has rehashed the unsuccessful arguments presented in multiple IPRs. Therefore, the arguments presented in the current proceeding fail to present Samsung’s cumulative art as a substantial new question of patentability. Notably, Samsung’s heavy reliance on Snell’s **Figure 3** and on Boer’s **Figure 4** exposes their substantial identity. Samsung’s references to these two figures have been placed in bolded italics to emphasize this point.

In its “Overview of Snell,” Samsung began:

Snell discloses a transceiver that serves as an *access point* for communicating data with other transceivers connected to a wireless local area network (WLAN). Snell at 1:34-46; see *id.* at 1:47-50, 4:42-47, 5:18-21. Snell’s transceiver transmits data packets intended for another transceiver, where the

communication may switch on-the-fly between a “first modulation method” (e.g., BPSK) and a “second modulation method” (e.g., QPSK) that is “of a different type than the first modulation method.” *Id* at 2:61-63 ..., 1:55-57 ..., 2:27-30 ..., 7:10-14 ..., 1:58-61 ..., 2: 15-17 .... See *id* at Abstract, 1:55-61, 2:56-59, Fig. 2, **Fig. 3**, Fig. 5.

‘580 Reexam Request, at 23-24.<sup>11</sup>

In its ‘518 IPR Petition, Samsung previously presented substantially the same arguments with respect to Boer:

Boer discloses the use of transceivers. See e.g. Ex. 1204, 2:6-22 (“Referring first to FIG. 1, there is shown a preferred embodiment of a wireless LAN (local area network) 10 in which the present invention is implemented... The *access point* 12 has antennas 16 and 17 for **transmitting and receiving messages** over a wireless communication channel... The mobile stations 18 are capable of **transmitting and receiving messages** *selectively at a data rate of 1 Mbps (Megabit per second) or 2 Mbps, using DSSS (direct sequence spread spectrum) coding.*”). A person of skill in the art would have recognized that an *access point* could act as a master in a basic service set of a wireless LAN. Ex. 1220, ¶95, 114. See also Ex. 1204, 2:34-37 ....

.... Boer plainly discloses transmissions using “at least two types of modulation methods,” since it teaches sending transmissions using DBPSK, DQPSK and PPM/DQPSK. Abstract (“A wireless LAN includes first stations adapted to operate at a 1 or a 2 Mbps data rate and second stations adapted to operate at a 1,2,5 or 8 Mbps data rate. The 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation.”). Ex. 1220, ¶116-118.

‘518 IPR Petition (Exhibit GG), at 19-20 (emphasis in italics added).

In its ‘580 Request, Samsung continued:

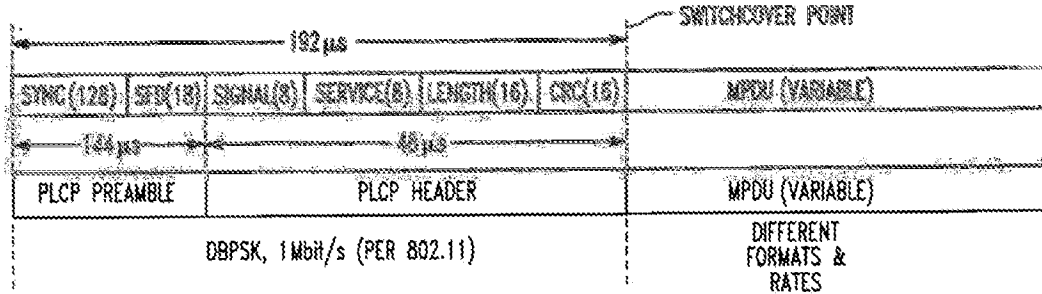
Snell discloses that *each data packet transmission comprises a "group of transmission sequences" structured with a “first portion” (e.g., a PLCP preamble and PLCP header) and a “payload portion” (e.g., MPDU data).* *Id* at 6:35-36, 6:64-66, 7:5-14, **Fig. 3**. The PLCP preamble contains SYNC and SFD fields, and

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<sup>11</sup> The parentheticals and footnotes have been omitted. Except for the references to FIG. 3 and FIG. 4 (which Rembrandt has bolded and italicized), emphases in bold are Samsung’s, and emphases in italics are Rembrandt’s.



the PLCP header contains SIGNAL, SERVICE, LENGTH, and CRC fields. *Id* at **Fig. 3**, 6:48-7:14. The MPDU data is the data to be transmitted to the receiving transceiver. *Id* at 7:5-6 ...; *see also id* at 7:6-14, **Fig. 3**.



(Snell) **FIG. 3**

*Id* at **Fig. 3**.

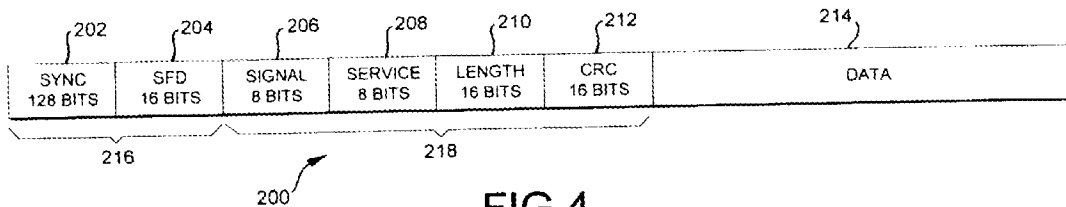
‘580 Reexam Request, at 24-25 (emphasis in italics added).

Again, Samsung made substantially the same arguments in its ‘518 Petition based on

Boer:

... Boer discloses a message 200, shown in **Figure 4**, that “include[s] an initial portion and a data portion.” See e.g. Ex. 1204, 1:33-37 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said messages include an initial portion and a data portion . . .”). The “initial portion” is the claimed “first portion,” while the “data portion” is the claimed “payload portion.” Ex. 1220, ¶[127-128.

... Boer discloses a communication device where “first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion.” An embodiment of message 200 is shown in **Figure 4** [below].



**FIG.4**

Messages 200 comprise several fields, including a Header 218 comprised, *inter alia*, of SIGNAL field 206, SERVICE field 208, and LENGTH field 210. *Id.* at 3:42-49. After Header 218, message 200 contains DATA field 214, *which also contains the address of the intended recipient.* *Id.* at 6:28-31. Ex. 1220, ¶129-130.

‘518 IPR Petition (Exhibit GG), at 21-22.

Samsung argued in its ‘580 Request:

*Snell teaches that the PLCP preamble and PLCP header are always modulated using the "first modulation method" (e.g., BPSK). Snell at 6:35-36 ("The header may always be BPSK"), **Fig. 3.** Snell further discloses that "first information in the first portion" (e.g., the SIGNAL field in the PLCP header) "indicates" which of the "first modulation method" (e.g., BPSK) and "second modulation method" (e.g., QPSK) is used for modulating "second information" in the "payload portion" (e.g., MPDU data).*

‘580 Reexam Request, at 25.

Again, substantially the same argument was made with respect to Boer in Samsung’s

‘518 IPR Petition:

Boer also discloses claim 1’s requirement that the “first information” (i.e., the identification of the modulation method) comprise a “first sequence” that is modulated using the “first modulation method.” *Boer teaches that Header 218, which includes the SIGNAL 206 and SERVICE 208 fields, is modulated using DBPSK, which is the "first modulation method."* Ex. 1204, 3:56-58 (“With regard to the message 200, **FIG. 4**, it should be understood that the preamble 216 and **header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation.**”). ... SIGNAL 206 and SERVICE 208 fields comprise the “first sequence.” *Given that data within the SIGNAL 206 and SERVICE 208 fields indicate what type of modulation the DATA field 214 will be transmitted with, they meet claim 1’s requirement that the "the first sequence indicate[] an impending change from the first modulation method to the second modulation method."* Ex. 1220, ¶136-137.

‘518 IPR Petition (Exhibit GG), at 23-24 (emphasis in italics added).

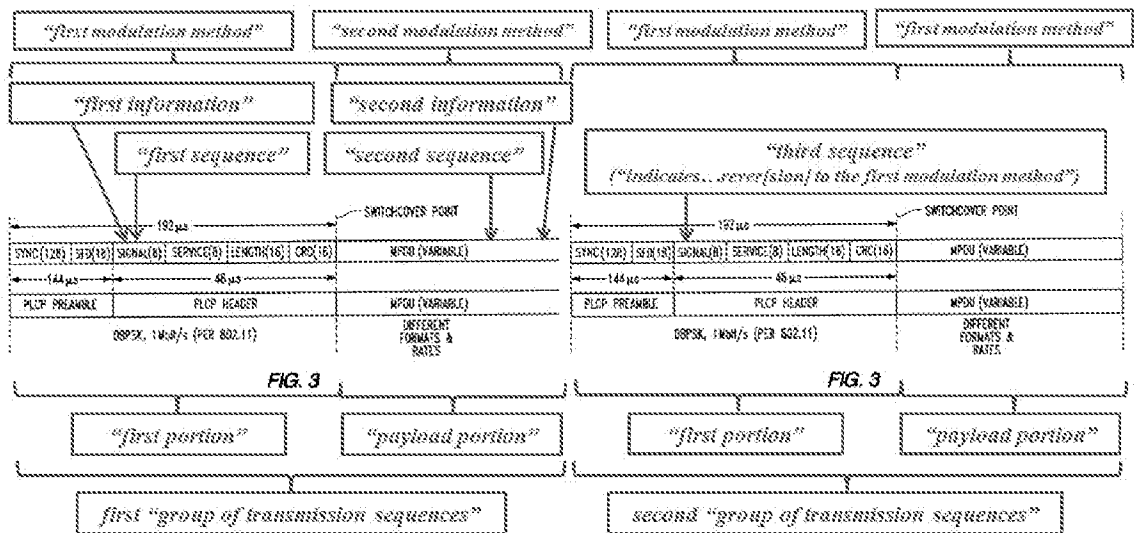
In its ‘580 Request, Samsung continued:

...Snell discloses "[n]ow relating to the *PLCP header 91, the SIGNAL* is:

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0Ah	1Mbits/s BPSK
14h	2Mbits/s QPSK
37h	5.5 Mbits/s BPSK, and
6Eh	11Mbits/s QPSK.

Snell at 6:52-59. Thus, Snell teaches that the SIGNAL field in the PLCP header includes the symbol "0Ah" to indicate when the MPDU data is modulated using the "first modulation method" (e.g., BPSK at 1 Mbit/s). Id at 6:52-59, 7:1-2, 7:5-14, **Fig. 3**. Snell also teaches that the SIGNAL field in the PLCP header includes the symbol "14h" to indicate when the MPDU data is modulated using the "second modulation method" (e.g., QPSK at 2 Mbit/s). Id. Snell thus teaches that "[t]he variable data may be modulated and demodulated in different formats than the header portion to thereby increase the data rate, and while a switchover as indicated by the switchover point in **FIG. 3**, occurs on-the-fly." Id at 7: 10-14; see also, e.g., id at **Fig. 3**, 2:27-30.



Id at **Fig. 3** (annotated).

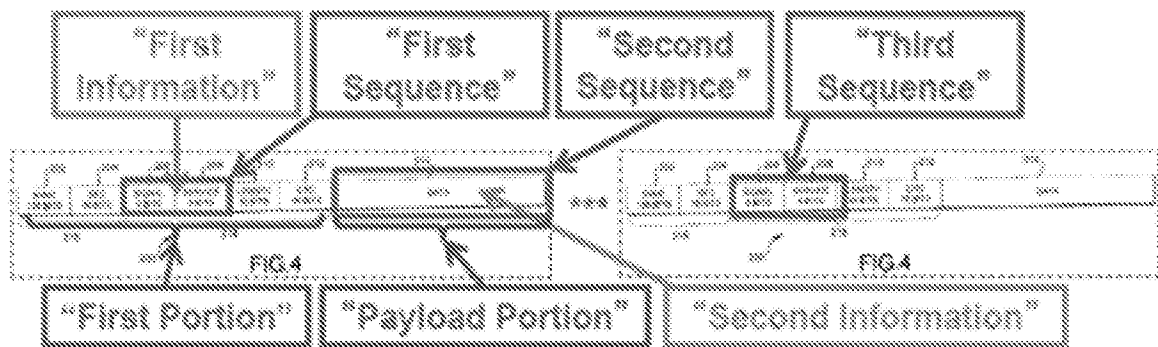
‘580 Reexam Request, at 25-26.

Similarly, Samsung previously argued in its ‘518 IPR Petition based on Boer:

... Boer teaches that the “second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method,” since the data (the “second information”) within DATA field 214 (the “second sequence”) will be modulated using the second type of modulation method (DQPSK or PPM/DQPSK) when the SIGNAL 206 and SERVICE 208 fields so indicate. Ex. 1204, 1:33-47, 3:56-62, 4:4-11 &

6:5-21. Finally, as plainly seen in **Figure 4** in Boer, DATA field 214 (i.e., the recited “second sequence”) is transmitted after SIGNAL field 206 and SERVICE field 208 (the recited “first sequence”). *See also id.*, 3:56-62 (“With regard to the message 200, **Fig. 4**, it should be understood that the preamble 216 and header 218 are always transmitted at the 1 Mbps rate using DBPSK modulation. The **subsequent DATA field 214**, however, may be transmitted at a selected one of the four possible rates 1, 2, 5 or 8 Mbps, using the modulation and coding discussed hereinabove.”). ... Ex. 1220, ¶138-140. Thus, claim 1 is rendered obvious by the combination of the APA and Boer.

Dependent claim 2 requires that the transceiver “transmit a third sequence after the second sequence.” This limitation is in both the APA and Boer. In the APA, transmission of multiple sequences is shown in Figure 2, with an exemplar “third sequence” being training sequence 48. *See also* Ex. 1201, 4:4-50. *Boer teaches this as well. Ex. 1204, 1:33-40* (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages at a plurality of data rates, wherein said **messages** include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...”). A subsequent transmission of SIGNAL 206 and SERVICE 208 fields would be the “third sequence.” The annotated figure [**FIG. 4** below]



illustrates the arrangement of “information,” “portions,” and “sequences” according to claim 1. Ex. 1220, ¶141-142.

Claim 2 further requires that the third sequence be “transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” As discussed, Header 218, which includes SIGNAL 206 and SERVICE 208 fields, always transmitted using DBPSK (the “first modulation method”). Ex. 1204, 3:56-58. Ex. 1220, ¶143. Thus, claim 2 is obvious in view of the prior art.

‘518 IPR Petition (Exhibit GG), at 24-25 (emphasis in italics added). *See also* ‘518 IPR Petition, at 23-24 (quoted above and arguing: “Given that data within the SIGNAL 206 and SERVICE 208 fields indicate what type of modulation the DATA field 214 will be transmitted with, they meet claim 1’s requirement that the ‘the first sequence indicate[] an impending change from the first modulation method to the second modulation method.””).

Having failed in its ‘518 IPR challenge to claims 2 and 59, Samsung attempted to embellish its arguments in its ‘114 IPR challenge. *See, e.g.*, ‘114 IPR Petition (Exhibit JJ), at 15-21 (challenging the third sequence limitation on which it lost in the ‘518 IPR). Samsung’s arguments in its ‘114 IPR Petition are included in Exhibit E, an exhibit that compares those arguments to the ones Samsung made in its ‘580 Reexam Request. The comparison in Exhibit E further illustrates the substantial identity of the issues raised and arguments made based on Boer and the issues raised and arguments made based on Snell. Again, Samsung’s challenge failed. *See* ‘114 IPR Institution Decision (Exhibit KK), at 7-8 (denying institution based on § 325(d) “because [Samsung’s petition] present[ed] merely ‘the same or substantially the same prior art or arguments’ presented ... in IPR ‘518”).

The CRU should have considered the substantial identity of the relied-on disclosure of Snell and previously-considered Boer and the arguments made by Samsung based on these two references and refused to order reexamination of the ‘580 Patent (or at least terminated it based on Rembrandt’s arguments and evidence once presented to it). Instead the CRU has mistakenly taken the position that it was not required to do so. That position is not supported by law or by the cited MPEP sections and has permitted Samsung an opportunity to do an end-run around prior PTAB determinations in which it failed to make its case. Rembrandt respectfully requests that the Board vacate the reexamination for lack of any substantial new question of patentability.

**B. The CRU Did Not Give Claims 2 and 59 Their Broadest *Reasonable* Construction because It Failed to Give Patentable Weight to the Multiple Master/Slave Limitations**

During reexamination of an unexpired patent, the Office applies the broadest reasonable construction when determining the meaning of claim terms.<sup>12</sup> MPEP § 2111. That is not to say, however, that the Office may construe claims so broadly that its constructions are *unreasonable* under general claim construction principles. *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015). The Office’s alleged broadest reasonable construction “cannot be divorced from the specification and the record evidence.” *Id.* (quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011)). A construction that is “unreasonably broad” and which does not “reasonably reflect the plain language and disclosure” of the subject patent will not pass muster. *Id.* (quoting *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010)).

As Rembrandt understands the CRU’s position, its primary argument with respect to the master/slave limitations is that they are not limitations at all.<sup>13</sup> See FOA at 25-29; AA at 8-10. Such a construction is completely divorced from the language of the claims as a whole and the teachings in the ‘580 description.<sup>14</sup> Further, the CRU’s position is contrary to how those limitations were treated by the PTAB in the multiple IPRs (now concluded favorably to Patent Owner with respect to claims 2 and 59) and contrary to the district court constructions (now

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<sup>12</sup> The CRU repeatedly suggests that Rembrandt should amend the claims. See, e.g., FOA at 19-20; AA at 11. That is not a reasonable suggestion in this case, as it overlooks the fact that the claims have been held valid and infringed by the district court (with validity now affirmed by the Federal Circuit) and determined unlikely to be proven unpatentable by the PTAB.

<sup>13</sup> The CRU’s alternative arguments are addressed *infra* at § VI.F.1.b-d.

<sup>14</sup> Notably, the ‘580 Patent uses the term “master” 94 times, the term “slave” 24 times, and the term “trib” 89 times. Further, the master/slave configuration is explicitly recited multiple times in claims 2 and 59. See *supra* at § III.A (quoting the claims). Persons of ordinary skill would have recognized from the above disclosures that the claimed master/slave configuration is an important part of claims 2 and 59 that limits the claims to a master/slave system. Akl I, at ¶ 25.

affirmed by the Federal Circuit). Neither the PTAB nor the courts ignored the master/slave limitations in the claims. *See, e.g.*, the '518 IPR Institution Decision (Exhibit HH) *passim*; *Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, 853 F.3d 1370 *passim* (Fed. Cir. 2017). Both claim 2 and 59 are clearly limited to a system designed to function as a master/slave system rather than as the peer-to-peer system of Boer or Snell. *See* the description above in § III; Akl I, at ¶¶ 84-97.

More specifically, the CRU posits that Snell's disclosure of a transceiver satisfies the limitations of the claims even though there is no evidence that Snell's transceiver is inherently capable of performing the claim limitations, *i.e.*, that it is programmed to do so or that it would have been obvious to do so. The CRU's position is contrary to law:

Although it is well established that claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, ... in order to satisfy the functional limitations in an apparatus claim, however, the prior art apparatus must be capable of performing the claimed function. ... As such, to be capable of performing the functional limitations in claim 1, *the control units or comparable structure must possess the necessary structure, that is, programming, to function as claimed.*

*Ex parte Hosoi*, No. 2010-005212, 2012 WL 889723 at \*2 (BPAI Mar. 7, 2012) (Exhibit I) (citing *In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997)) (emphasis added). While the court in *Schreiber* found that the functional claim limitations were inherently met by the prior art, the court did not ignore the limitations or hold that the prior art could be modified to meet the limitations. *See In re Schreiber*, 128 F.3d at 1477-78. By analogy, to support its position that Snell's transceiver satisfies all the limitations of claims 2 and 59, the CRU was at least required to make a *prima facie* case that Snell's transceiver, as programmed, satisfies all the claim limitations, including the master/slave limitations. The CRU did not do so but rather maintained

the position that Snell's transceiver is "programmable" and thus is capable of being programmed to meet the limitations. *See, e.g.*, FOA at 21.

The CRU "agrees" with the language quoted from *Hosoito* but concludes that "[a]s long as a transceiver having the capability of being *programmable* then the transceiver is able to meet the claim limitations of claims 2 and 59." FOA at 21 (emphasis added). Thus, for example, the CRU agrees that the transceiver in Snell "must possess the necessary structure, that is, programming, to function as claimed," *i.e.*, to function as a master/slave system. Yet there is no evidence that Snell possesses such programming or that it would have been obvious to program Snell's transceiver to satisfy the claim limitations, *including* the master/slave limitations. Further, there is no evidence that one of ordinary skill would be motivated to do so absent recognition of the problem to be solved and Mr. Bremer's solution. *See* the description above at § III.C.

Additionally, the CRU's construction ignores the teachings in the '580 Patent's specification, including those explaining the problem Mr. Bremer identified and solved. *Cf. In re Prater*, 415 F.2d 1393 (CCPA 1969) (recognizing that the identification of a problem and its solution was part of the inventors' "contribution to the art" and rejecting the Office's hindsight approach in determining obviousness):

As we see it, the underlying statutory basis for the rejection of apparatus claim 10 is 35 U.S.C. § 103 which precludes the grant of a patent if and only if "the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." *Appellants' discovery, discussed in the second paragraph under the heading "THE INVENTION," supra, is, it seems to us, part of their contribution to the art. On that basis, appellants' discovery should be considered as part of "the subject matter as a whole" and not part of the prior art.* It is conceded by the Patent Office that that discovery is both new and unobvious. Thus, based on the record before us, we do not perceive any reasonable basis for concluding that "the subject



matter as a whole," as defined by apparatus claim 10, would have been obvious at the time of appellants' invention.

We have carefully considered the basic position of the Patent Office that it would be obvious to program a general-purpose digital computer to practice appellants' invention and that apparatus claim 10 reads on such a computer, as well as the disclosed analog device. *We find that position fatally defective in that it, in effect, assumes the existence as prior art of appellants' discovery that the relationship indicative of error amplification "is related to, and may be expressed in terms of, the determinants of the subsets of equations, the determinant of largest magnitude indicating the subset of equations involving least error amplification." Perhaps today, after reading appellants' disclosure, the public dissemination of which the patent system fosters and encourages, it might be obvious to program a general-purpose digital computer to practice the invention. But 35 U.S.C. § 103 requires an analysis of the prior art at the time the invention was made to determine whether the invention was obvious. Graham v. John Deere Co., 383 U.S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966). Assuming the existence, at the time of the invention, of general-purpose digital computers as well as typical programming techniques therefor, it is nevertheless plain that appellants' invention, as defined in apparatus claim 10, was not obvious under 35 U.S.C. § 103 because one not having knowledge of appellants' discovery simply would not know what to program the computer to do. See Ex parte King, 146 USPQ 590 (Pat. Off. Bd. App. 1964).*

*Id.* at 1405-06 (footnote omitted) (emphases added). Similarly here, Mr. Bremer's discovery of the problem and its solution in a master/slave system, as described and claimed in the '580 Patent, must be considered when construing the claim limitations (as well as determining obviousness (discussed *infra* at § VI.G)). Without the benefit of hindsight, "one not having knowledge of [Mr. Bremer's] discovery simply would not know what to program [Snell's transceiver] to do."

The CRU's overly broad claim construction suggests that functional language should somehow be treated differently than other types of claim language. That is not the case, as is clear from the language in MPEP § 2173.05(g):

A claim term is functional when it recites a feature “by what it does rather than by what it is” (e.g., as evidenced by its specific structure or specific ingredients). *In re Swinehart*, 439 F.2d 210, 212, 169 USPQ 226, 229 (CCPA 1971). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *Id.* ... Functional language may ... be employed to limit the claims without using the means-plus-function format. See, e.g., *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1363 (Fed. Cir. 1999). ...

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. ...

....

Examiners should consider the following factors when examining claims that contain functional language to determine whether the language is ambiguous: (1) whether there is a clear cut indication of the scope of the subject matter covered by the claim; (2) whether the language sets forth well-defined boundaries of the invention or only states a problem solved or a result obtained; and (3) whether one of ordinary skill in the art would know from the claim terms what structure or steps are encompassed by the claim. These factors are examples of points to be considered when determining whether language is ambiguous and are not intended to be all inclusive or limiting. Other factors may be more relevant for particular arts. The primary inquiry is whether the language leaves room for ambiguity or whether the boundaries are clear and precise.

Notably, in this case, “there is a clear-cut indication of the scope of the subject matter covered by the claim[s],” “the language sets forth well-defined boundaries of the invention,” and “one of ordinary skill in the art would know from the claim terms what structure or steps are encompassed by the claim.”

Based on case law as reflected in MPEP § 2173.05(g), in a reexamination, the Office has two options with respect to all of the claim limitations, including any functional limitations. It

can either (1) establish that the limitations are inherently or expressly disclosed in the cited art or would have been obvious based on that art, or (2) determine that the language is such that it cannot be construed and terminate the reexamination. The Office cannot ignore functional language by taking the position that the cited art could have been modified to satisfy the limitations. And that, in effect, is what the CRU has done in this case. For example, it has not established that Snell's transceiver was programmed to perform the functional claim limitations "in the role of master", inherently or expressly, or that it would have been obvious to do so without knowledge of the problem identified by Mr. Bremer, let alone his solution to solving the problem. *See In re Prater*, 415 F.2d at 1405-06 (quoted above). Rather, *at most*, the only thing the CRU has established is that Snell discloses a transceiver that perhaps could have been programmed according to the claim limitations *had one of ordinary skill in the relevant art recognized the problem and solution that Mr. Bremer identified*. But there is no evidence that one of ordinary skill did so at the relevant time. Instead, the CRU's approach ignores the '580 specification, including the claims, and the unrecognized problem identified *in a master/slave system* and solved by the claimed invention *in a master/slave system*. *See supra* at § III.C (describing Mr. Bremer's claimed solution to a previously-unrecognized problem).

The CRU also asserts that all of the limitations after "for" (in claim 2) and after "capable of" (in claim 59) are intended uses, do not further limit the structure of the claimed transceiver, and thus are not entitled to "patentable weight." FOA at 4-6. In response to Patent Owner's arguments in its Reply to the Non-Final Office Action ("Reply") at 28-44, the CRU indicates that it is giving patentable weight to the limitations that are preceded by the express language "configured to." FOA at 20-22; AA at 8-10. In fact, the CRU's approach continues to

ignore the master/slave limitations throughout the claims, *including* that in the clause following the “configured to” language in both claim 2 and 59 which reads:

wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that *communication from the master to the slave* has reverted to the first modulation method. (emphasis added).

In doing so, contrary to law, the CRU concludes that “Snell is also capable of communication in a master role in a master/slave relationship just like the transceiver in claims 2 and 59 because both transceivers are programmable.” AA at 9.

**1. According No Patentable Weight to the Master/Slave Limitations Conflicts with the PTAB’s Prior Construction**

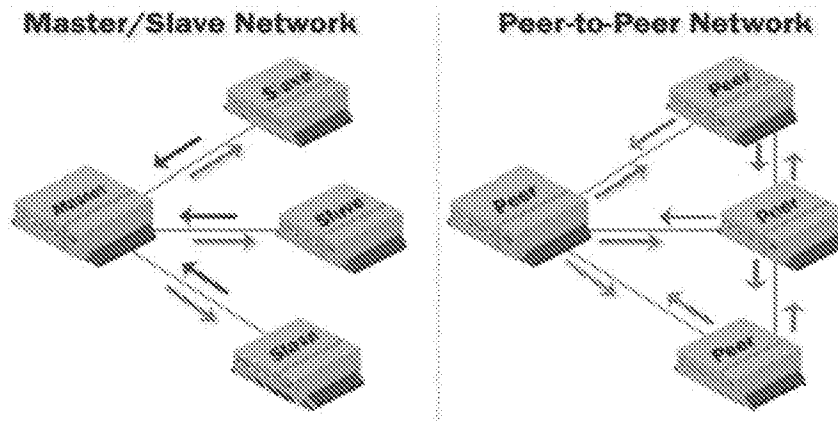
The CRU’s approach is completely at odds with that of the PTAB in, for example, its ‘518 IPR Institution Decision. In that Decision, the PTAB accorded *all* limitations of the claims patentable weight, and found that the additional limitations in dependent claims 2 and 59 were *decisive* in distinguishing those claims over the cited references. *See* ‘518 IPR Institution Decision (Exhibit HH) *passim*. The CRU’s approach also is at odds with how the PTAB treated the master/slave limitations in the other 12 related IPRs identified in Exhibit A. The CRU fails to supply any reasoning to support a different interpretation than that of the PTAB. Instead it confusingly states that “the conclusions drawn by IPRs ... or the claims interpretation set forth in IPRs ... may not be applied in the current ex parte reexamination.” FOA at 20.

The CRU’s position also is at odds with the district court’s construction which, like the PTAB’s, accorded patentable weight to all the claim limitations. *See Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, 853 F.3d 1370 (Fed. Cir. 2017); Claim Construction Order in *Rembrandt Wireless Tech. v. Samsung Elecs. Co.* (Exhibit F). Contrary to the Office’s own procedures, the CRU did not “assess[] whether the judicial interpretation is consistent with the broadest

reasonable construction of the term” or justify “adopting a different claim construction than the judicial interpretation [by] supply[ing] reasoning to support the different interpretation.” MPEP § 2258 I.G. Here, the CRU has not supplied such an assessment or justification. Instead it merely relies on the general principles that it applies the BRI when evaluating an unexpired patent and that Rembrandt can amend its claims to support its position that it can construe them differently than the courts. FOA at 19-20. The procedures identified in MPEP § 2258.I.G. cannot be satisfied by such an approach.

## **2. The Broadest Reasonable Construction of “Master/Slave”**

Instead of ignoring the master/slave limitations, the CRU should have given the “master/slave” terms their plain and ordinary meaning as one skilled in the art would have understood the terms in the context of the ‘580 Patent. In the field of data communications, the electrical devices can be arranged in various network configurations. The ‘580 Patent and its claims are directed to a network historically-referred to in the computer industry as a *master/slave* network because one centralized “master” device controls all network communications with the other subordinate “slave” or “tributary” devices. Akl I, at ¶¶ 21-23. The slave devices do not directly communicate with one another, but instead only communicate with the master. *Id.* This is very different from a *peer-to-peer* network (like Snell), in which network control is distributed amongst the devices in the network and each device communicates directly with its peers:



*Id.* at ¶ 21.

Persons of ordinary skill at the relevant time would have recognized that the plain and ordinary meaning of a “master” is “a device which controls all communications with other devices (*i.e.*, slaves) in a network” and the plain and ordinary meaning of a “slave” is “a device whose network communications are controlled by a master.” Akl I, at ¶ 21. That is the way “master/slave” is used in the specification and claims of the ‘580 Patent. For example, the device disclosed in the ‘580 Patent includes “a transceiver capable of acting as a master according to a master/slave relationship in which communication from a slave to a master occurs in response to communication from the master to the slave.” ‘580 Patent at Abstract. “[A] master controls the initiation of its own transmission to the tribs and permits transmission from a trib only when that trib has been selected.” *Id.* at 4:7-9. *See also id.* at 2:24-29 (describing the claimed invention as one involving “communication according to a master/slave relationship in which a communication from a slave to a master occurs in response to a communication from the master to the slave.”).

Numerous technical sources define “master” and “slave” consistent with the above-described plain and ordinary meaning of these terms. For example, the IEEE Wireless Dictionary states:

“master: In the context of wireless protocols, this refers to a device that controls the operation of a network. ...”

“slave: In the context of wireless protocols, a device that is dependent on another device for control, usually called the master. ...”

*E.g.*, IEEE Wireless Dictionary at 55, 80; *see also* Akl I, at ¶ 23 (identifying other technical sources describing same).

Simply put, the CRU’s position that the master/slave limitations can be ignored as “intended uses,” and/or that these limitations are met by *any transceiver capable of being programmed to function as a master*, is not only contrary to the law but also at odds with the PTAB’s analyses and that of the district court and Federal Circuit in *Rembrandt Wireless Tech. v. Samsung Elecs. Co.* Such limitations can only be met by a prior art transceiver that is programmed or otherwise set up to perform all the functions required by the claim limitations or by prior art that would have suggested such programming. Here, none of the art relied on by the CRU does so. *See infra* at § VI.F (discussing the three claim limitations missing from and not suggested by the relied-on art).

**C. The CRU Has Misconstrued the Claimed Modulation Methods “of a Different Type” Limitations Rendering Its Claim Construction Unreasonable**

With respect to the modulation methods “of a different type” limitations, the CRU posits that modulation methods that are “incompatible” satisfy the “different type” limitations and thus that Snell’s disclosure of BPSK and QPSK is sufficient to meet that requirement. *See* FOA at 22 (relying on the ‘518 IPR Final Written Decision at 7-12); AA at 12-13 (“according to the interpretation set forth in IPR2014-00518, QPSK and BPSK are different modulation methods”).<sup>15</sup>

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<sup>15</sup> The PTAB determination relied on by the CRU was based on Boer, not Snell. The CRU refuses to consider the striking similarities between Boer and Snell when addressing the SNQ

As an initial matter, in advancing its “incompatible” construction, the CRU has ignored how that term is used in the ‘580 specification. In that context, first and second modulation methods are incompatible when one modem using the first method cannot communicate with a second modem using the second method. *See* ‘580 Patent, 1:45-65. *See also supra* at § III.C describing the problem the claimed invention was designed to and did solve. Importantly, “incompatible” as used in the ‘580 Patent cannot be considered in a vacuum but must be considered in the context in which it is used. *Akl I*, at ¶ 26. Notably the CRU *admits* that Snell had no such incompatibility problem to solve (AA at 12-13) and thus no motivation to develop the ‘580 solution to the ‘580 incompatibility problem.

The CRU has also ignored an express definitional statement in the prosecution history of the ‘580 Patent. As explained below, when an applicant unambiguously defines a claim limitation in the intrinsic record, that definition governs *regardless* of whether the claim is being interpreted under the BRI or *Philips* construction. Here, the Federal Circuit has already determined that the prosecution history of the ‘580 patent unambiguously defines modulation methods of “a different type” to mean “different families of modulation methods.” *Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, 853 F.3d 1370, 1377 (Fed. Cir. 2017). Since none of the art relied on by the CRU discloses different families of modulation methods, all of the rejections should be reversed.

**1. Under the Broadest Reasonable Construction, a Definition Governs If It Is Set Forth in the Prosecution History**

While, in certain circumstances, there may be differences between the broadest reasonable construction (“BRI”) applied by the Office and the *Philips* construction applied in infringement cases, those differences do not impact the claim construction analysis with respect

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issue but selectively relies on the PTAB’s determinations based on Boer when they support its positions.



to modulation methods “of a different type.” As the Federal Circuit has explained, as part of its determination of the broadest reasonable construction, “[t]he PTO *should also consult the patent’s prosecution history* in proceedings in which the patent has been brought back to the agency for a second review.” *Microsoft Corp.*, 789 F.3d at 1298 (quoted and followed by the PTAB in, e.g., *Mylan Pharms. Inc. v. Yeda Research & Deve. Co. Ltd.*, IPR2015-00644, 2015 WL 5169139 (PTAB Aug. 25, 2015) (Exhibit Q); *Google Inc. v. Arendi S.A.R.L.*, IPR2014-00452, 2015 WL 4976582 (PTAB Aug. 18, 2015) (Exhibit R)). *See also Straight Path IP Group, Inc. v. Snipet EU S.R.O.*, 806 F.3d 1356, 1262 (Fed. Cir. 2015) (stating that prosecution history “is to be consulted even in determining a claim’s broadest reasonable interpretation”).

Recently, in *Arendi S.A.R.L., v. Google LLC*, 882 F.3d 1132 (Fed. Cir. 2018), the Federal Circuit reaffirmed the requirement that the Office must consider the subject patent’s prosecution history based on facts similar to those in this case:

In making its primary ruling, the PTAB declined to credit the prosecution statements, and instead construed the claims as unlimited by the prosecution history. PTAB Op. at \*11, \*20. On this construction, the PTAB held the claims invalid in view of Goodhand. That was error. “In construing patent claims, a court should consult the patent’s prosecution history so that the court can exclude any interpretation that was disclaimed during prosecution.” *Sorensen*, 427 F.3d at 1378 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc)).

Here the applicant amended the claims and explained what was changed and why, and the examiner confirmed the reasons why the amended claims were deemed allowable. *See ACCO Brands, Inc. v. Micro Sec. Devices, Inc.*, 346 F.3d 1075, 1078–79 (Fed. Cir. 2003) (stating that the examiner’s Reasons for Allowance made “clear that the examiner and the applicant understood” what was changed and what the invention required). Here too, the examiner’s “Reasons for Allowance” made clear that the examiner and the applicant understood what the applicant had changed, and what the claim amendment required.

Based on the PTAB's error in declining to apply the prosecution disclaimer, the ruling of unpatentability on this ground cannot stand. ...

*Arendi*, 882 F.3d at 1135-1136. Thus, under the broadest reasonable construction, where the patentee has set forth a definition in either the specification *or* prosecution history, that definition governs. *Cisco Systems, Inc. v. AIP Acquisition, LLC*, IPR2014-00247, 2014 WL 2364452, at \*6 (PTAB May 27, 2014) (Exhibit S); *accord Advanced Fiber Techs. Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1374 (Fed. Cir. 2012). The Federal Circuit has repeatedly held that an inventor can act as his own lexicographer if he uses a "special definition of the term [that] is clearly stated in the patent specification or file history." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). That is what happened during prosecution of the '580 Patent.

## **2. The Prosecution History Unambiguously Defined "of a Different Type"**

The original claims of the '580 Patent required a first modulation method that was "*different*" from a second modulation method but did not require modulation methods of a "*different type*." For example, claim 1 required in material part:

1. A communication system, comprising:  
a transmitter capable of transmitting at least two modulation methods, wherein the at least two modulation methods comprise a first modulation method and a second modulation, wherein the second method is *different* than the first modulation method, ...

U.S. Application Serial No. 12/543,910, claim 1 (emphasis added).

In the first Office action, a number of claims were allowed, including claim 1 and its dependent claims. A significant number of other claims were rejected under §§ 102 and 103 based on U.S. Patent No. 5,537,398 to Siwiak ("Siwiak"). Siwiak disclosed transmissions in two different modulation formats. *See* Siwiak Abstract. In response to the rejections, many of the claims were amended to further distance them from Siwiak. The amendments to claim 1 included, *inter alia*, the following language:

1. (Currently Amended) A communication ~~system~~ device ..., the device comprising:

a transceiver ... for sending at least ~~transmitter capable of transmitting~~ transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method ...

March 1, 2011 Reply at 2.

Specifically, the narrowing amendments, among other things, required that the second modulation method be “of a different type,” rather than merely requiring that the modulations were “different.” In conjunction with this amendment, the applicant stated:

Applicant has further amended claims 1-2, 9-15, 18, 37-38, and 45-46 with additional recitations to more precisely claim the subject-matter. For example, *the language of independent claim 1 has been clarified to refer to two types of modulation methods, i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.*

March 1, 2011 Reply at 20 (emphasis added). Applicant’s statement in the prosecution history clearly reflects a narrowing of the claims to require two different *types* of modulation methods and further clarified that “different types of modulation methods” refers to “different families of modulation techniques” in a definitional “*i.e.*” statement.

Akl I, at ¶ 20.

**3. The Federal Circuit has Determined that the Prosecution History of the ‘580 Patent Unambiguously Defines Modulation Methods of “A Different Type” to Mean Different Families of Modulation Methods**

Contrary to the CRU’s and the PTAB’s construction, the Federal Circuit determined that the unambiguous prosecution history of the ‘580 Patent governs the construction of modulation methods of “a different type.” *Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, 853 F.3d 1370, 1377 (Fed. Cir. 2017) (issued after the PTAB’s Final Written Decision in the ‘518 IPR).

In *Rembrandt Wireless Techs.*, the district court determined that, based on the prosecution history, “modulation methods of a different type” must be construed as “different families of modulation techniques, such as the FSK [frequency-shift keying] family of modulation methods and the QAM [quadrature amplitude modulation] family of modulation methods.” *Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, No. 13-213, 2014 WL 3385125, at \*15 (E.D. Tex. July 10, 2014) (Claim Construction Order) (Exhibit F) (quoted with approval in *Rembrandt Wireless Techs.*, 853 F.3d at 1377). The Federal Circuit affirmed the district court’s claim construction and determined that Samsung had not met its burden of proving the invalidity of claims 2 and 59 of the ‘580 Patent. *See Rembrandt Wireless Techs.*, 853 F.3d at 1375-1380.

In arriving at its holding, the Federal Circuit analyzed the prosecution history of the ‘580 Patent and confirmed that it includes an *unambiguous* statement that defines “different types of modulation methods” as “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.” *Id.* at 1377. This determination was based on claim construction law that applies to *both* the *Philips* and the BRI standards. The Federal Circuit reasoned as follows:

During prosecution of the ‘580 parent patent, the applicant inserted the “different types” limitation into its claims after the examiner had already issued a notice of allowance. In the applicant’s contemporaneous remarks to the examiner, he indicated that he inserted the limitation into the independent claims to “more precisely claim the subject-matter.” The applicant explained:

Applicant has further amended [its] claims . . . with additional recitations to more precisely claim the subject matter. For example, the language of independent claim 1 has been clarified to refer to two *types* of modulation methods, *i.e., different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.*

... Samsung contends that the plain claim language requires only that the different types of modulation methods be “incompatible” with one another.

According to Samsung, the claims cover devices that modulate signals using the same family of modulation methods (for example, FSK modulation), but operating with different amplitudes between modems. Samsung asserts that, because modulating using different amplitudes makes the devices incompatible, this arrangement embodies “different types” of modulation.

We disagree with Samsung and adopt the construction entered by the district court. ... Here, *the clearest statement in the intrinsic record regarding the meaning of the “different types” limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not diminish this unambiguous statement in the prosecution history.*

For example, Samsung avers that we should not give the prosecution history statement definitional weight because it uses the phrase “i.e.,” which Samsung argues introduces an exemplary item in a set. A patentee’s use of “i.e.,” in the intrinsic record, however, is often definitional. Indeed, the term “i.e.” is Latin for *id est*, which means “that is.” ... *The context here strongly supports the conclusion that Rembrandt used “i.e.” to define the “different types” limitation* ...

\* \* \*

We therefore agree with the construction entered by the district court that the term “modulation method [] of a different type” means “different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods.”

*Id.* at 1376-1377 (emphasis added; internal citations omitted).

The Federal Circuit further affirmed the finding that two modulation methods that both alter phase are not “different types” of modulation. *Rembrandt Wireless Techs.*, 853 F.3d at 1379 (“Taken with Dr. Morrow’s testimony, the fact that Boer’s DBPSK and PPM/DQPSK modulation methods both alter phase is substantial evidence to support the jury’s presumed fact finding that Boer did not teach the ‘different types’ limitation.”). It is evident from the Federal Circuit’s ruling that families of modulation methods are determined based upon the feature of the signal that is altered to encode information in the signal., e.g., with frequency shift keying (FSK)

techniques making up one such family and phase shift keying (PSK) techniques making up another such family.

According to the CRU, it need not consider the Federal Circuit's determination for a number of reasons, including the fact that the PTAB construed the "of a different type" language differently in the '518 IPR. FOA at 11. However, the CRU's claim construction cannot be justified based on the PTAB's '518 IPR Final Written Decision. When the PTAB issued that decision, it did not have the benefit of the Federal Circuit's decision regarding the construction of the '580 Patent claims. In addition, the PTAB's findings that "Patent Owner's purported 'definition' is *anything but clear or precise*" and that the "prosecution history is, *at best ambiguous*" (*id.* at 8-9) cannot be squared with the Federal Circuit's conclusion that the patent applicant *unambiguously* defined the "different types" limitation in the prosecution history. On the legal question of whether the definition of "different types" set forth in the prosecution history is or is not ambiguous, the PTAB's decision in the '518 IPR has been superseded and effectively has been overruled by the Federal Circuit.

For the above reasons and in light of the Federal Circuit's opinion construing the claims of the '580 Patent, Rembrandt respectfully submits that the *only reasonable* construction of "different types" of modulation methods is the one Rembrandt explicitly set forth in the prosecution history, namely, "different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods." *See* Akl I, at ¶ 20. Based on the CRU's failure to correctly define "of a different type" consistent with the prosecution history and the Federal Circuit's determination, all the rejections should be reversed. *See* the discussion *infra* at § VI.F.2; Akl I, at ¶¶ 121-130.

**D. The Office Cannot Characterize Claims 2 and 59 as “Single Means Claims” and Yet Continue Reexamination**

While the CRU’s position is not entirely clear, it repeatedly characterizes claims 2 and 59 as “single means” claims, *i.e.*, “a transceiver.” Non-Final Office Action (“NFOA”) at 6. *See also* FOA at 27-28, 38; AA at 8-9. It appears that the CRU believes such an interpretation supports its position that any transceiver can satisfy the claim limitations and that it can ignore functional limitations *including* those limiting the claims to one configured such that it performs as a master/slave device. *See* FOA at 27-28.

Rembrandt disputes that claims 2 and 59 of the ‘580 Patent are “single means” claims, or indefinite, as such a construction is clearly unreasonable and not consistent with the PTAB’s determinations or that of the district court and Federal Circuit. *See Rembrandt Wireless Techs., LP, v. Samsung Elecs. Co.*, 2014 WL 3385125 (E.D. Texas 2014), *aff’d.*, 853 F.3d 1370 (Fed. Cir. 2017). However, should the Board agree with the CRU that the claims are single means claims, then, by law, the claims are indefinite. *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983). *See also Ex parte David Chater-Lea*, No. 2009-001115, 2010 WL 665664 (BPAI Feb. 22, 2010) (Exhibit J). In such case, no prior art rejection can be issued (and hence reexamination on the basis of patents and printed publications cannot proceed), as doing so would necessarily be based on a speculative assumption as to the meaning of the claims.<sup>16</sup> *See, e.g., In re Steele*, 305 F.2d 859, 862 (CCPA 1962) (“Our analysis of the claims indicates that considerable speculation as to

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<sup>16</sup> Rembrandt twice requested that the reexamination be terminated because, through its repeated characterization of the claims as single means claims, the CRU had determined that the claims were indefinite (an issue not subject to reexamination). *See* Reply at 28 n. 13; “Petition Requesting the Director to Exercise Her Supervisory Authority Pursuant to 37 C.F.R. § 1.181(a)(1) and/or § 1.182,” filed May 2, 2017. The CRU refused to do so, taking the position that no § 112 rejection had been made and that claim construction issues are for the Board to decide on appeal. *See* Petition Decision at 6-7 (mailed 6/22/17). Thus, the Board must now decide this issue, as it is not fair to Rembrandt to leave a cloud on the claims’ patentability.

meaning of the terms employed and assumptions as to the scope of such claims were made by the examiner and the board. We do not think a rejection under 35 U.S.C. § 103 should be based on such speculations and assumptions.”); *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (“If a claim is indefinite, the claim, by definition, cannot be construed.”).

The Board has consistently terminated proceedings where it believed that the scope of claims being challenged could not be determined without speculation. *See, e.g., CBS Interactive Inc., v. Helferich Patent Licensing, LLC*, No. 2016-005652, 2016 WL 7494542 (PTAB Dec. 29, 2016) (Exhibit T); *Globus Med., Inc. v. Flexuspine, Inc.*, IPR2015-01830, Paper 11, at 9-10, 15 (PTAB Feb. 25, 2016) (Exhibit U); *Google, Inc. v. Function Media, L.L.C.*, No. 2011-010724, 2012 WL 1891077 (BPAI May 22, 2012) (Exhibit K). Thus, should the Board agree with the CRU’s position that claims 2 and 59 are “single means” claims (which would render the claims indefinite), the Office should follow that same course here and terminate these proceedings.<sup>17</sup>

**E. The CRU’s Evidence Is Not Sufficient to Establish that Snell’s Attempted Incorporation by Reference of the Harris Documents Was Successful**

The CRU relies on incorporation by reference of Harris AN9614 and/or Harris 4064.4 (collectively the “Harris Documents”) to support each of its grounds of rejection. *See* NFOA at 9-11 (§ 102(e) rejection) (supplemented in FOA at 27-29);<sup>18</sup> NFOA at 11-20 (§ 103(a) rejections). The CRU’s arguments that Snell’s attempted incorporation by reference of the Harris Documents was successful are fundamentally and legally flawed and contrary to the

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<sup>17</sup> The CRU does not respond to Rembrandt’s argument that, to the extent the claims are single means claims, the reexamination should be terminated. *See* FOA 27-28, 38; AA 8-9. Instead, the CRU purports to give weight to limitations which the CRU determined followed “configured to” language. FOA 38; AA 8-9. Such an approach ignores the law on single means claims. *See, e.g., Hyatt*, 708 F.2d at 714.

<sup>18</sup> In the NFOA, the CRU did not cite Harris AN9614 or Harris 4064.4 to support its § 102(e) rejection. *See* NFOA at 9-11. Rather it relied primarily on its overly broad claim construction that ignores the master/slave limitations. It supplemented the §102(e) rejection with a quotation from Harris AN9614 regarding Harris’ “polled scheme.” FOA at 29.



Office's own rules and regulations requiring a sufficient showing of public accessibility. For this reason alone, all of the outstanding rejections should be reversed.

**1. The CRU's Evidence Does Not Establish that the Harris Documents Were Accessible to the Relevant Public and Thus Does Not Establish that the Documents Were "Publications" as Required by Law**

As will be shown below, for incorporation by reference of the Harris Documents to be successful, the Harris Documents must be shown to have been publications. To prove that a document is a publication in the legal sense, the document must have been "disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it." *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981) (citation omitted) (quoted in MPEP § 2128). *See also Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006) (quoting *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981)); *Ex Parte Jennings*, No. 2007-0064, 2007 WL 774798, at \*2-3 (BPAI Mar. 9, 2007) (Exhibit L); *Ex Parte Textron Innovations, Inc.*, No. 2010-011891, 2011 WL 2095629, at \* 21-22 (BPAI May 23, 2011) (Exhibit M). Public accessibility is the "touchstone in determining whether a reference constitutes a 'printed publication' bar under 35 U.S.C. § 102(b)." *In re Hall*, 781 F.2d 897, 898-99 (Fed. Cir. 1986) (quoted in *SRI Int'l, Inc., v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008)). *See also In re Lister*, 583 F.3d 1307, 1316-17 (Fed. Cir. 2009) (rev'g the Board's rejection because the government failed to make a *prima facie* case that the relied-upon reference was publicly accessible prior to critical date); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 936 (Fed. Cir. 1990) ("A document, to serve as a 'printed publication,' must be generally available."); MPEP § 2128.02 ("Date Publication is Available As a Reference").<sup>19</sup> In fact, the very meaning of "publication" requires

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<sup>19</sup> "[I]nterpretation of the words 'printed' and 'publication' to mean 'probability of dissemination' and 'public accessibility' respectively, now seems to render their use in the

that a document be made accessible to the public to be considered a publication. *See, e.g.,* American Heritage Dictionary of the English Language (5<sup>th</sup> ed. 2016) (Houghton Mifflin Harcourt Publishing Co.) (“publication” means the act of making public). The Office has the burden of proving that the Harris Documents were prior publications, a burden the Office has failed to meet. The CRU’s evidence does not establish that the Harris Documents were prior publications, and their alleged inclusion in the Snell file wrapper did not render them publicly available. Thus, Snell’s attempted incorporation of the Harris Documents into its specification failed.

**a. The Burden Rests with the Challenger to Present a *Prima Facie* Showing that a Document was Publicly Accessible**

As a threshold matter, the challenger of a patent bears the burden of establishing that a reference is publicly accessible before it may be used as a prior art publication. *See, e.g., In re Lister*, 583 F. 3d 1307, 1317 (Fed. Cir. 2009); *see also In re Hall*, 781 F. 2d 897, 899 (Fed. Cir. 1986) (“The *proponent of the publication bar* must show that prior to the critical date the reference was sufficiently accessible, at least to the public interested in the art, so that such a one by examining the reference could make the claimed invention without further research or experimentation.”) (emphasis added). The Office has not met this burden.

**b. The CRU’s Arguments Are Not Sufficient to Establish That The Harris Documents were Publicly Accessible Prior to the Priority Date of the ‘580 Patent**

The CRU’s position can be characterized as two-fold. *See* FOA at 23-25; AA at 4-6.

First, it posits that the Harris Documents were publicly accessible; second, alternatively, it posits

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phrase ‘printed publication’ somewhat redundant.” *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981) (quoted in MPEP 2128). “Given the state of technology in document duplication, data storage, and data-retrieval systems, the ‘probability of dissemination’ of an item very often has little to do with whether or not it is ‘printed’ in the sense of that word when it was introduced into the patent statutes in 1836.” *Id.* Thus, from a legal perspective, the terms “printed publication” and “publication” can be used interchangeably.

that public accessibility was not required to incorporate the Harris Documents by reference as long as they were submitted with the Snell application. The CRU makes the following two arguments in an attempt to establish the Harris Documents' public accessibility:

- Snell's attempted incorporation by reference of the Harris Documents into the Snell application rendered the Harris Documents "publicly accessible" because, under 37 CFR § 1.11(a), the Snell application, including the contents of the file, was "open to inspection by the public" and copies could be "obtained upon the payment of" a fee. FOA at 23-24 (quoting § 1.11(a), a regulation that was not in place at the relevant time). *See also* AA at 4. "[A]s long as the documents, i.e., Harris AN9614 and Harris 4064.4, were provided by Snell at the time the application was filed, these documents are publicly accessible and incorporation by reference is reasonable." FOA at 24.
- "[E]ach of the Harris Documents has a publication date and copyright information and it was therefore accessible to the pertinent part of the public and available for duplication. In re Wyer 210 USPQ 790." FOA at 25.

Both of these arguments are legally flawed.

**i. The Snell Application and Its File Wrapper Were Kept Confidential As Required By Law at the Relevant Time – A Time Well Prior to the Adoption of Relied-On 37 C.F.R. § 1.11(a)**

The CRU raised its 37 C.F.R. § 1.11(a) argument for the first time in the Final Office Action. In response, Rembrandt pointed out 37 C.F.R. § 1.11(a) was not adopted prior to the relevant time period, *i.e.*, that applications were not published at that time. Rembrandt further pointed out that Snell was not published until it issued as a patent on November 9, 1999, long

after the '580 Patent's priority date. Response to Final Office Action ("Response") at 3-4. The CRU maintained its position in its Advisory Action. See AA at 4.

In the Advisory Action, the CRU posited that "the Patent Owner fails to provide evidence that there was no mechanism for publishing application when Snell was filed and fails to provide evidence the 37 C.F.R. § 1.11 was not in effect at the time of the Snell application." AA at 4. The CRU took this untenable position in spite of Rembrandt's earlier argument that "*until the Snell patent issued*, the interested public would not have known of the Snell application's existence and would not have known of the existence of the Harris Documents in its file wrapper." Reply to NFOA at 59 (quoting 35 U.S.C. § 122(a), which reads "Except as provided in subsection (b),<sup>[20]</sup> applications for patents shall be kept in confidence by the Patent and Trademark Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provisions of an Act of Congress or in such special circumstances as may be determined by the Director.>").

The CRU's position regarding the publication of a pending application at the relevant time reflects a complete lack of knowledge of controlling law. See 35 U.S.C. § 122 (Appendix L – MPEP 7<sup>th</sup> Ed. July 1998); MPEP § 101 (7<sup>th</sup> Ed. July 1998). Only applications filed "on or after November 29, 2000" are published and then only "after the expiration of a period of eighteen months from the earliest filing date for which a benefit is sought under title 35." MPEP § 1120(I) (9<sup>th</sup> Ed. Nov. 2015) (citing 35 U.S.C. § 122(b)). The Snell application was filed on March 17, 1997 and, therefore, was not published until the patent issued on November 9, 1999, after the '580 Patent's priority date. The Office provides no logical basis for its position that the

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<sup>20</sup> Section (b) applies only to applications filed on or after November 29, 2000. Thus, section (b) does not apply to Snell, which was filed in 1997.

Snell application was published prior to the '580 Patent's priority date or evidence that it was in fact published (which it was not).

Likewise, inclusion of the Harris Documents on an information disclosure statement in the Snell file wrapper during the prosecution of the Snell application did not establish their public accessibility at the relevant time. At that time, just like the Snell application itself, the contents of its file wrapper were *maintained in confidence*. See 35 U.S.C. § 122(a) (quoted above and in MPEP § 1120(I)). See also *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 866 (Fed. Cir. 2010) (“We agree that ResQNet did not convert these manuals into printed publication prior art by including them with the IDS submitted to the PTO.”). Thus, *until the Snell patent issued*, the interested public would not have known of the Snell application's existence and would not have known of the existence of the Harris Documents in its file wrapper. This is particularly true under the present facts as the Snell application was assigned to Harris Corporation during the prosecution of the application. Snell at p. 1. Harris Corporation was also the source of the Harris Documents. Harris 1064.4 at p. 1; Harris AN9614 at p. 1. The inclusion of one's own work on an IDS is not an indication that that work is or was *publicly* accessible, it is only an indication that the *assignee* was aware of the work. See MPEP § 2129 (citing *Riverwood Int'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354-55 (Fed. Cir. 2003) for the proposition that “listing of applicant's own prior patent in an IDS does not make it available as prior art absent a statutory basis”).

The PTAB addressed a factually similar scenario in *Microsoft Corp. v. Biscotti Inc.*, IPR2014-01457, Paper 9 (PTAB Mar. 19, 2015) (Exhibit V) and correctly concluded that the cited document was *not* rendered publicly accessible by its inclusion in an IDS:

Patent Owner argues that the citation of the HDMI Specification in an IDS filed in the prosecution of U.S. Patent No. 7,940,809 also fails to support

Petitioner’s position. Patent Owner notes that “[t]he published application from which the ’809 patent derives ... does not cite [the HDMI Specification],” and that “U.S. Patent No. 7,940,809 was not granted until 2011, long *after* the priority date of the ’182 patent.” Patent Owner elaborates that Petitioner does not explain how submission of a document in an IDS of an unpublished, ungranted patent application demonstrates public accessibility of the document, noting that Petitioner does not identify any way that an interested person could or would have located the document submitted in the IDS of an unpublished, ungranted patent application. Patent Owner argues that “the mere apparent possession of the specification by the assignee [of the unpublished, ungranted patent application]—a single company—does not demonstrate the document’s *public* availability.”

...

We are persuaded that Petitioner has not demonstrated the public accessibility of the HDMI Specification. For the reasons explained by Patent Owner, the evidence cited by Petitioner facially fails to demonstrate the public accessibility of the document prior to the effective filing date of the ’182 patent.

*Microsoft Corp. v. Biscotti Inc.*, IPR2014-01457, Paper 9 at 26–28 (PTAB Mar. 19, 2015)

(Exhibit V) (internal citations and footnotes omitted, emphasis in original).

Just as in the *Microsoft* case, Snell issued *after* the priority date for the ‘580 patent. Accordingly, the Office has failed to demonstrate the public accessibility of the Harris Documents prior to that date. Thus, lack of sufficient evidence to establish their public accessibility prior to Snell’s attempted incorporation by reference, that attempt failed.

**ii. The Ambiguous Dates and Unregistered Copyright Notices on the Harris Documents Are Not Sufficient to Establish Public Accessibility**

The CRU’s second argument in support of its allegation that the Harris Documents were publicly accessible prior to the ‘580 Patent’s priority date is also contrary to law. The CRU relies on ambiguous dates and unregistered copyright notices on the Harris Documents as

allegedly providing evidence of their public accessibility.<sup>21</sup> FOA at 25 (citing *In re Wyer*, 655 F.2d 221 without identifying where the case provides support). The unidentified “March 1996” and “October 1996” dates on Harris AN9614 and Harris 4064.4, respectively, and their unregistered 1996 copyright notices by Harris Corporation are not sufficient to establish a date of dissemination or accessibility to “persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence.” *Wyer*, 655 F.2d at 226 (citation omitted). A copyright date merely establishes “the date the document was created or printed.” *Ex parte Rembrandt Gaming Techs., LP*, Appeal 2014-007853, Reexamination Control No. 90/012,379 at 5 (PTAB Dec. 3, 2014) (Exhibit W) (“the 1993 copyright date in Tequila Sunrise does not show the requisite availability in 1993”); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper 13 at 17 (PTAB Aug. 26, 2015) (Exhibit X) (“we are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date”). In this case, there is no evidence that the copyrighted material was ever registered, deposited with the Library of Congress, or distributed to any members of the interested public. Lacking such evidence, a copyright notice has little, if any, evidentiary value, and therefore is not sufficient to prove public accessibility.

**2. The CRU’s Arguments Are Not Sufficient to Establish Snell’s Attempted Incorporation by Reference of the Harris Documents Was Successful Absent of Evidence of Public Accessibility**

Incorporation by reference of non-essential material into a patent application is limited by 37 C.F.R. § 1.57(e) and by the cases interpreting this regulation. Section 1.57(e) reads:

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<sup>21</sup> The CRU incorrectly refers to the unidentified dates on the documents as “publication dates” in the Final Office Action. FOA at 25. There is no evidence or suggestion that these dates are publication dates rather than the dates the documents were created or circulated internally at Harris Corporation. Again, the relevant date for public accessibility is the date upon which the document becomes available to the public, not the date a document is created. *See, e.g.*, MPEP §§ 2128.II.B; 2128.02. There is no evidence that the dates contained in the Harris Documents indicate a date of public accessibility.

(e) Other material (“Nonessential material”) may be incorporated by reference to U.S. patents, U.S. patent application *publications*, foreign patents, foreign *published* applications, prior and concurrently filed commonly owned U.S. applications, or non-patent *publications*. ....” [emphasis added]

Thus, except for prior and concurrently filed commonly owned U.S. applications, in order to incorporate any material by reference, *it must be published*.

The CRU’s arguments that the Harris Documents need not have been publicly accessible are three-fold. According to the CRU:

- Since Snell is a § 102(e) reference, [i]t does not matter whether the content of that patent (in this case, Snell) was published before the invention or not.” FOA at 24.
- “[P]ublications that are incorporated by reference are different from publications used for prior art. As long as at the time of application of Snell, the documents of Harris were provided by Snell, then the material in Harris Documents can be incorporated by reference into the application of Snell.” FOA at 24 (citing and quoting MPEP § 2163.07(b)).
- “Nowhere in [37 C.F.R. 1.57(e)] requires the non-patent publications be public [sic: publicly] accessible.” FOA at 25.

The CRU’s arguments are seriously, legally flawed for the reasons given below.

**a. Without Publication of the Harris Documents, Snell’s Attempted Incorporation by Reference Failed and Thus the Documents Did Not Become Part of the Snell Application**

The CRU’s reliance on § 102(e) to support to its position that the Harris Documents need not have been published is legally flawed in that it assumes that the Harris Documents *were* in fact successfully incorporated by reference into the Snell application. But that was not the case. By law, only published, *i.e.*, publicly accessible, documents can be so incorporated. *See* 37 C.F.R. § 1.57(e) (quoted above and limiting incorporation by reference of non-essential material



to “U.S. patents, U.S. patent application *publications*, foreign patents, foreign *published* applications, prior and concurrently filed commonly owned U.S. applications, or non-patent *publications*.” (emphasis added)). *See also General Elec. Co. v. Brenner*, 407 F.2d 1258, 1262 (D.C.Cir.1968) (“[R]eference to a disclosure *which is available to the public* is permissible.”) (emphasis added); *In re Heritage*, 182 F.2d 639, 643 (CCPA 1950) (same). In fact, the Office implemented 37 C.F.R. § 1.57 to codify the limits of incorporation by reference as specified in the *General Electric* case. *See* 69 Fed. Reg. 56482, 56501 (citing *Gen. Elec. Co. v. Brenner*, 407 F.2d 1258 (D.C. Cir. 1968)). Given its legislative history, in implementing 37 C.F.R. § 1.57, the Office clearly intended the words “publication” and “published” to mean documents that were available to the public, *i.e.*, publicly accessible. Further, as previously noted, the plain meaning of the words “publication” and “published” is consistent with that interpretation. *See, e.g.*, American Heritage Dictionary of the English Language (5<sup>th</sup> ed. 2016) (Houghton Mifflin Harcourt Publishing Co.) (“publication” means the act of making public). Thus, the CRU’s reliance on § 102(e) to establish incorporation of the Harris Documents clearly fails to do so.

**b. The Argument that Any Document Can Be Incorporated by Reference as Long as It Is Submitted With the Application Is Legally Flawed and Would Write “Published” and “Publication” Out of the Regulation**

The CRU’s unsupported argument that “publications that are incorporated by reference are different from publications used for prior art[,]” and thus any document submitted with an application can be incorporated by reference is legally flawed and makes no sense. It is legally flawed because it ignores the language of the regulation and related case law. *See, e.g., Gen. Elec. Co.*, 407 F.2d at 1262 (D.C. Cir.1968) (“incorporation by reference has a home in patent cases *provided that any reference made is to that which is available to the public*”) (emphasis original). And the argument makes no sense in that it would write the terms “published” and

“publication” out of the regulation and in fact render the regulation meaningless, if *any* document submitted with a patent application could be incorporated by reference. MPEP § 2163.07(b) (quoted in FOA at 25) does not support the CRU’s argument but instead supports the proposition that, while a patent applicant may “attempt to incorporate the content of another document ... by reference to the document in the text of the specification,” *such an attempt may fail. See id.*

**c. Non-Patent Publications Must Be Publicly Accessible To Be Incorporated by Reference Under Rule 1.57(e)**

The CRU’s third argument, i.e., that § 1.57(e) “nowhere ... requires the non-patent publications be public” again ignores the language of the regulation and the case law discussing incorporation by reference (identified above). The CRU doesn’t offer any other interpretation of the terms “published” and “publication,” or identify any evidence that these terms have any other meaning than their plain meaning and the meaning of the terms as it relates to prior art publications under the patent laws. Thus, the CRU has failed to carry its burden of establishing that Snell’s attempted incorporation of the Harris Documents by reference was successful.

**3. The CRU Cannot Rely On Incorporation by Reference of Sections of the Harris Documents That Snell Did Not Identify “With Detailed Particularity”**

Even assuming *arguendo* that incorporation by reference had been successful with respect to the material relied on by Snell, the material now relied on by the CRU was not identified “with detailed particularity,” as required by law. “To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000) (quoted in *Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1376 (Fed. Cir. 2006)). Snell does not identify

at all (and certainly not “with detailed particularity”) the information in the Harris Documents relied on by the CRU. *See* Snell at 5:2-17. For example, Snell does not identify the “polled scheme” on page 3 of Harris AN9614 that the CRU alleges corresponds to or suggests the claimed “master/slave relationship” or the two different modulations in Harris 4064.4 that the CRU alleges corresponds to the claimed different modulation types. Instead, Snell identifies Harris’ various filters and oscillators in AN9614 and a specific baseband processor in 4064.4:

Various filters 36, and the illustrated voltage controlled oscillators 37 may also be provided as would be readily understood by those skilled in the art and as further described in the Harris PRISM 1 chip set literature, such as the application note No. AN9614, March 1996, the entire disclosure of which is incorporated herein by reference.

...

The conventional Harris PRISM 1 chip set includes a low data rate DSS baseband processor available under the designation HSP3824. This prior base band processor is described in detail in a publication entitled “Direct Sequence Spread Spectrum Baseband Processor, March 1996, file number 4064.4, and the entire disclosure of which is incorporated herein by reference.

*Id.*

Snell’s attempt to incorporate by reference “the entire disclosure” of the Harris Documents does not remedy the situation because the Office has repeatedly rejected such attempts. For example, in *Ex parte Koppolu*, the PTAB explained the rationale for prohibiting applicants from incorporating entire documents without an explanation of what they are being on relied on to show:

[B]y permitting applicants to incorporate by reference entire documents without an explanation of what they are being relied on to show would invite the wholesale incorporation by reference of large numbers of documents and correspondingly increase the burden on examiners, the public, and the courts to determine the metes and bounds of the application disclosures. ...

For the foregoing reasons, we will apply the law on incorporation by reference as stated in *Advanced Display* and repeated in *Cook Biotech*.

Appellants' argument that MPEP § 2163.07(b) "expressly authorizes the incorporation by reference of an entire document," ... is unconvincing because an incorporation by reference must satisfy the specificity requirement of *Advanced Display*.

*Ex parte Koppolu*, No. 2005-1431, 2005 WL 4806276, at \*18-19 (BPAI Nov. 14, 2005) (Exhibit N). See also *Oxford Nanopore Techs. Ltd. v. Univ. of Washington and UAB Research Found.*, IPR2014-00512, 2014 WL 4644357, at \*9 (PTAB Sept. 15, 2014) (Exhibit Y):

In the instant case, although Petitioner urges that Akeson incorporates by reference the disclosure at column 13, lines 10-13 of the '782 patent, the Petition does not direct us to any express or specific disclosure in Akeson mentioning that passage with detailed particularity. ... Nor does the Petition direct us to any clear or specific disclosure in Akeson suggesting that Akeson sought to incorporate by reference any teachings in the '782 patent as to the physical properties Akeson required of its nanopores. ... Accordingly, we are not persuaded that the Petition has shown that, because Akeson incorporates the '782 patent as a whole by reference, among many other references, Akeson in effect can be considered as positively teaching the subject matter disclosed at column 10, lines 10-13 of the '782 patent.

*Accord Ex parte Carlucci*, No. 2010-006603, 2012 WL 4718549, at \*2-3 (BPAI Sept. 28, 2012) (Exhibit O) (rejecting assertion that blanket incorporation by reference was effective to incorporate transparent characteristic of Ahr '045's apertured film).

Accordingly, despite Snell's attempt to incorporate by reference "the entire disclosure" of the Harris Documents, such an incorporation is insufficient to meet the requirements of *Advanced Display Systems*. Therefore, even if Snell had been successful in incorporating the material he identified "with detailed particularity," Snell was not successful in incorporating the

material now relied on by the CRU. It follows that the CRU's reliance on incorporation by reference to render the Harris Documents publicly accessible must fail.<sup>22</sup>

For the reasons given above, under controlling law, including the Office's own regulations and decisions, none of the alleged evidence of public accessibility of the Harris Documents prior to the priority date of the '580 patent is sufficient to show the Harris Documents were publicly accessible at the relevant time, and, without public accessibility, Snell's attempt to incorporate them by reference necessarily failed. In addition, the portions of the Harris Documents relied on by the CRU were not identified "with detailed particularity," as required by law. Accordingly, the CRU's grounds of rejection should be reversed, as each depends on incorporation by reference of the Harris Documents.

**F. At Least Three Claim Limitations Are Not Taught by and Would Not Have Been Suggested by Any of the References and Thus Defeat All Grounds of Rejection**

The CRU has rejected claims 2 and 59 of the '580 Patent as allegedly (i) anticipated by Snell, (ii) unpatentable over Snell in view of Yamano, and (iii) unpatentable over Snell in view of Yamano and Kamerman. All three grounds of rejection fail to establish unpatentability because at least three limitations are missing from all of the relied-on art and would not have been obvious based on any of the CRU's combinations of art in support of its § 103(a) rejections (even if the Harris Documents were properly incorporated by reference). Those missing limitations are those requiring (i) "the master/slave relationship," (ii) the at least two modulation methods "of a different type," and (iii) "the third sequence."

With respect to both claims, those missing limitations are found in the following claim language:

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<sup>22</sup> Notably, the CRU did not respond to this argument and its supporting case law, even though the argument was first raised in June of 2017 (*see* Reply to NFOA at 62-68) and again in September 2017 (*see* Response to FOA at 3-4).

- (i) “A communications device capable of communicating *according to a master/slave relationship* in which *a slave communication [or message] from a slave to a master occurs in response to a master communication [or message] from the master to the slave*, the device comprising: a transceiver, *in the role of the master according to the master/slave relationship*,”
- (ii) “using at least *two types of modulation methods*, wherein the *at least two types* of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is *of a different type* than the first modulation method,” and
- (iii) “configured to transmit *a third sequence* after the second sequence, wherein *the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.*”

Claims 2 and 59 of the ‘580 Patent (emphases added).

**1. The Master/Slave Limitations Cannot be Ignored, are Not Disclosed, and Would Not Have Been Suggested by the Art Relied on by the CRU**

As described above, claims 2 and 59 require “a transceiver in the role of the master according to the master/slave relationship” in which “a slave communication [or message] from a slave to a master occurs in response to a master communication or message from the master to the slave.” *See supra* at §§ III & VI.B. They also require that the transceiver be “configured to indicate[] that communication from the master to the slave has reverted to the first modulation method.” *See id.*

The CRU attempts to address the multiple master/slave limitations using four alternative approaches: First, by “disagree[ing] that the master/slave relationship is a limitation” (FOA at 27, AA at 8); second, by asserting that the transceiver of Snell is *capable* of communication in a master role of a master/slave relationship *merely* because the transceiver of Snell is “*programmable*” (FOA at 28, AA at 9) (emphasis added); and third, by asserting the following:

Snell discloses a spread spectrum transceiver that *can be used* as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and

*is capable of acting as a master in a master/slave relationship. ...Snell's transceiver is not set up only in a peer to peer communication. Harris AN9614 discloses that the PRISM chipset described in Snell can operate in a polled (master/slave) protocol:*

[T]he controller can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any. With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

-- Harris AN9614 at 3.

This discloses that when the PRISM chipset described in Snell's transceiver is configured to operate in a polled (master/slave) protocol, power consumption can beneficially be reduced by more than an order of magnitude.

A polled protocol is a master/slave protocol, as confirmed by the '580 patent ('580 patent at col. 4, lines 6-9). See also IPR2014-00518, Pap. 47 at 15 ("In [a polling] protocol, a centrally assigned master periodically sends a polling message to the slave nodes, giving them explicit permission to transmit on the network.") ...

FOA at 28-29 (emphasis added); AA at 9-10.

Fourth and last, the CRU states that "it is determined by PTAB that master-slave relationship is unpatentable subject matter" in the '518 IPR. FOA at 29; AA at 10. The CRU does not cite to any page in the '518 IPR or explain why a PTAB determination in that IPR – one based on different art and addressing different claims – should be applied in this case.

Each of the CRU's alternative approaches for addressing the claimed master/slave relationship fails for the reasons set forth below.

**a. The Master/Slave Limitations are Structural Limitations that Limit the Scope of the Claims**

With respect to the CRU's first approach, the CRU asserts that the claimed master/slave relationship is "not a structure in the rejected product claim(s)." FOA at 28, AA at 9 ("Because ... a master/slave relationship is not a structure, the term 'master/slave relationship' is not part of a transceiver or the device of claims 2 and 59."). The CRU's construction in which the "master/slave" limitations of claims 2 and 59 are not given weight is overly broad because it is (i) completely divorced from the language of the claims and the written description and (ii) inconsistent with claim constructions by the district court (now affirmed by the Federal Circuit) and by the PTAB in multiple IPRs involving the '580 patent. *See supra* § VI.B (addressing claim construction).

**b. Snell's Transceiver Does Not Satisfy the Master/Slave Limitations Merely because It *Could Be* Programmed to Act in the Role of A Master**

With respect to the CRU's second approach, the CRU alleges that the transceiver of Snell is capable of performing the claimed master/slave functionality merely because the transceiver of Snell is programmable. *See* FOA at 28 (concluding that "the transceiver of Snell is ... capable of communication in a master role in a master/slave relationship just like the transceiver in claims 2 and 59 because both transceivers are programmable"); AA at 9 (same). *See also* FOA at 9, 10, 12, 15 (repeating this argument). Under the CRU's faulty reasoning, any programmable transceiver is capable of performing any and all functions regardless of whether the transceiver possesses the necessary structure (*e.g.*, programming) to perform the functions. Rather, to satisfy the claimed master/slave limitations, the transceiver of Snell must possess the necessary structure (*e.g.*, programming) to function as claimed. *See supra* § VI.B .



There is no evidence that Snell's carrier sense transceiver is configured to act in the role of master or slave in a master/slave system as claimed. Snell, discloses a transceiver 30, Snell at FIG. 1, 4:42-43, designed for peer-to-peer communications, such as carrier sense multiple access with collision avoidance (CSMA/CA) communications. See Snell at 5:26-29 (disclosing that Snell's transceiver includes a "CCA circuit block 44" that "provides a clear channel assessment (CCA) to avoid data collisions," *i.e.*, collisions which do not occur in a master/slave setting). See also *id.* at FIG. 1; Akl I, at ¶ 104. A system that implements a CSMA/CA protocol for collision avoidance is distinctly different than a master/slave system. Akl I, at ¶ 104.

In a CSMA/CA system, any device on the network can initiate a communication whenever the device determines that no other communications are occurring. In stark contrast, the claims of the '580 Patent are limited to master/slave communications in which slave devices can only communicate on a network when prompted by a master. Akl I, at ¶ 104 & n. 10. Because of this fundamental difference, the problem the '580 Patent set out to solve within the context of a more rigid master/slave setting was not one faced by Snell, and the solution claimed in the '580 Patent is not one disclosed or suggested by Snell. See *supra* at § III.C; Akl I, at ¶¶ 94-97, 104. Thus, Snell does not disclose and would not have suggested master/slave communications, let alone the master/slave system claimed in the '580 Patent without the benefit of hindsight, *i.e.*, without using the claimed invention as a roadmap. See Akl I, at ¶¶ 81-93 (describing the '580 Patent technology), 104. An analogous issue was addressed in the rehearing of *In re Prater*, 415 F.2d at 1405-06 ("Assuming the existence, at the time of the invention, of general-purpose digital computers as well as typical programming techniques therefor, it is nevertheless plain that appellants' invention ... was not obvious under 35 U.S.C. § 103 because *one not having knowledge of appellants' discovery simply would not know what to program the*

*computer to do.*”) (quoted more fully above in § VI.B). As occurred in *Prater*, the rejections based on hindsight – with the claimed invention of the ‘580 Patent used as a roadmap – cannot stand. Lacking recognition of the problem Mr. Bremer identified and solved, one simply would not have been motivated or known how to configure Snell’s transceiver to do so. Akl I, at ¶¶ 104-109.

With respect to the CRU’s § 102(e) rejection based on Snell, the CRU’s failure to establish that Snell’s transceiver (without modification or further programming) is capable of functioning “in the role of the master according to the master/slave relationship” defeats the CRU’s anticipation rejection. *See, e.g., Ex parte Kumar*, No. 2012-010829, 2015 WL 729625, at \*3-4 (PTAB Feb. 18, 2015) (Exhibit Z):

Even assuming that Proulx’s interface could be programmed, and also is capable of being adapted to provide the recited function (which the Examiner does not establish with evidence), modifying Proulx’s interface with additional or different programming would effectively create a new or different interface. To support a rejection premised upon a theory of anticipation, it is not enough to find that a prior art device is merely capable of being adapted or modified to operate in a manner that would anticipate the claims. *See Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011) (discussing *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117-18 (Fed. Cir. 2002)).

Anticipation requires the prior art apparatus, as provided, to be capable of performing the recited function, not merely one that might later be *modified* to include such capability, for example, by altering its programming. *Typhoon Touch Techs.*, 659 F.3d at 1380. Because the Examiner has not shown that Proulx’s apparatus can perform the function stated in the claim without requiring to specifically program or reconfigure the apparatus, and thus change the apparatus’s structure, the Examiner does not establish that Proulx’s apparatus anticipates claim 67, or its dependent claims 68 and 70. *See id.*

*See also Ex parte Eckardt*, No. 2013-007294, 2016 WL 827260, at \*2 (PTAB Feb. 29, 2016)

(Exhibit AA) (“Lacking any explanation by the Examiner regarding why the functional language

in claim 1 following the term ‘configured to’ fails to limit the structure of the claimed system, and lacking any explicit finding that Eckhardt’s device including a catalytic recombiner would satisfy the ‘configured to’ language of claim 1, we do not sustain the rejection of claim 1.”).

In response to Rembrandt’s arguments that the CRU’s § 102(e) rejection fails because Snell does not disclose a master/slave system, the CRU offers an alternative argument based on the alleged incorporation by reference of Harris AN9614. FOA at 28-29; AA at 9-10. The CRU’s alternative argument based on Harris AN9614 is not convincing at least because (1) Snell’s attempted incorporation by reference of Harris AN9614 was not successful (*see supra* at § VI.E) and (2) the “polled scheme” of Harris AN9614 does not disclose the master/slave limitations of claims 2 and 59 (*see infra* at § VI.F.1.c).

Turning to the CRU’s two § 103(a) rejections, the CRU again posits that “Snell teaches a communication device capable of communicating according to a master/slave relationship.” FOA at 7-8 (citing Snell at FIG. 1, 1:34-46, 1:47-50, 1:55-57, 4:27-30, 4:42-47, 5:2-7; Harris AN9614 at p. 3). However, the CRU has failed to explain how Snell’s transceiver (with or without modification) would have rendered that claimed in the ‘580 Patent obvious. It is not enough to just state that Snell’s transceiver is theoretically “capable of” being modified to communicate according to the master/slave relationship of claims 2 and 59. Again, given the fundamental differences between Snell’s teachings and those in the ‘580 Patent, claims 2 and 59 would not have been obvious based on Snell in the absence of hindsight. *See* Akl I, at ¶¶ 104-109. *See also In re Prater*, 415 F.2d at 1397-98 (quoted above).

**c. The Cited References, Including Harris AN9614, Do Not Disclose and Would Not Have Suggested a Transceiver that Possesses the Necessary Structure to Satisfy the Claimed Master/Slave Limitations**

With respect to the CRU’s third approach, the CRU primarily relies on its position that Snell’s “teachings” *alone* support its § 102(e) rejection. *See* FOA at 4-7. Initially, it was only

with respect to the CRU's two § 103(a) rejections that the CRU turned to Harris AN9614 to attempt to address the master/slave limitations. *See* FOA at 7-12.<sup>23</sup> However, to respond to Rembrandt's arguments that the master/slave limitations must be considered and that Snell does not disclose them, the CRU alternatively relies on Harris AN9614's "polled scheme" and posits that "polled protocol *is* a master/slave protocol...." *See* FOA, at 28-29; AA at 9-10 (relying on page 3 of Harris AN9614) (emphasis added).

As an initial matter, the CRU's reliance on page 3 of Harris AN9614 to address the master/slave limitations fails because (1) Harris AN9614 is *not* prior art and thus, legally, Snell's attempted incorporation by reference failed (*see supra* at § VI.E.1-2) and (2) the portions of Harris AN9614 that Snell attempted to incorporate by reference (i.e., filters and oscillators) is of material (which concerns filters and oscillators) found on the first two pages of Harris AN9614, not the page relied on by the CRU, and that material is not related to Harris AN9614's polled scheme. *See supra* at § VI.E.3.

In any case, even assuming the portion of Harris AN9614 disclosing a polled scheme had been successfully incorporated by reference, Harris AN9614 would not have disclosed or suggested the missing master/slave limitations. The CRU mistakenly equates the disclosure of a "polled scheme" in Harris AN9614 to a master/slave communication protocol without considering that Harris AN9614 uses his polled scheme in the context of peer-to-peer communications (the focus of Snell (col. 5: 20-29) and Harris AN9614 (*passim*)), *not*

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<sup>23</sup> With respect to the master/slave limitations, the CRU relies on the reasoning set forth in the § 103(a) rejection based on Snell in view of Yamano to support its § 103(a) rejection based on Snell in view of Yamano and Kamerman and thus provides no additional explanation or citations to support its position that the master/slave limitations are disclosed or would have been obvious based on the three references. *See* FOA at 13-15.

master/slave communications. *See infra* at § VI.G.1-2; Akl I, at ¶¶ 103 (n. 10), 112-120. As explained by Dr. Akl:

To the extent that the Office is equating Harris AN9614’s “polled scheme” to a master/slave configuration, that position is based on a faulty understanding of the scope of “polling” in the relevant art and on an incorrect reading of Harris AN9614 and the ‘580 Patent. *While polling can also take place in a master/slave system, see ‘580 Patent at 4: 6-9 (describing its master/slave protocol as a “polled multipoint communications protocol,”) that discussion does not limit polling — which is a more general term in the relevant art -- to master/slave protocols but rather describes one aspect of the claimed protocol. In fact, there is no suggestion in Harris AN9614 that its “polled scheme” is taking place in anything other than the peer-to-peer communications protocol being discussed in Harris AN9614. See Harris AN9614 at 3.*

Akl I, at ¶ 119 (emphasis added); *see also id.* at ¶¶ 113-120.

Thus, Harris AN9614’s “polled scheme” does not disclose and would not have suggested the master/slave limitations to the skilled artisan. It does not disclose those limitations because polling is a general term and can and does take place in peer-to-peer systems (like the CCA systems described at col. 5, lines 26-29 of Snell). As an example, a hypothetical node A and a hypothetical node B could communicate according to a polled scheme in which (i) node A polls node B to request information from node B, (ii) after node B sends the requested information to node A, node B polls node A to request information from node A, and (iii) node A sends the requested information to node B. In this way, nodes A and B would use a polled scheme to communicate, but neither of nodes A and B would be a master or slave. *See* Akl I, at ¶¶ 117-118 (citing “Telecommunications network,” at 2, Britannica Online Encyclopedia (“A decentralized form of polling is called token passing. In this system, a special “token” packet is passed from node to node. Only the node with the token is authorized to transmit; all others are listeners.”)).

The CRU relies on the '580 Patent itself to support its position that “a polled protocol is a master-slave protocol.” FOA at 29. In fact, the '580 Patent merely confirms that polling *can* take place in a master/slave system (which Rembrandt does not dispute). *See* '580 Patent at 4:6-9 (describing its master/slave protocol as a “polled multipoint communications protocol”). However, the discussion of polling in the '580 Patent does not *limit* polling to master/slave protocols. Akl I, at ¶ 119. Meanwhile, Harris AN9614 does not disclose and would not have suggested that its “polled scheme” is taking place in anything other than the peer-to-peer communications protocol discussed in Harris AN9614 (and in Snell). *See* Harris AN9614 at 3; Akl I, at ¶ 119. *See also infra* at § VI.G.3 (discussing the need to maintain a peer-to-peer system in order to maintain compatibility with the IEEE 802.11 standard).

Again, the cited page of Harris AN9614 (*i.e.*, page 3) does not mention “master” or “master/slave” but instead merely states:

With a low power watch crystal, the controller [of the PRISM chip set] can keep adequate time to operate either a polled or a time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when communications is expected. This station would be awakened periodically to listen for a beacon transmission. The beacon serves to reset the timing and to alert the radio to traffic. If traffic is waiting, the radio is instructed when to listen and for how long. In a polled scheme, the remote radio can respond to the poll with its traffic if it has any.

Harris AN9614 at 3. That is the full extent of the “polled scheme” discussion in Harris AN9614 that is alleged to suggest the master/slave limitations of the claimed invention. Given the brevity of this discussion, and the fact that both Snell and Harris AN9614 are focused on peer-to-peer communications, one of ordinary skill in the relevant art would have concluded that the discussion of a “polled scheme” refers to polling as part of peer-to-peer communications, not master/slave communications. As Dr. Akl explains, a person of ordinary skill in the art would

have understood that Snell and the Harris Documents are discussing peer-to-peer communications, not master/slave communications:

The primary reference, *Snell*, discloses a transceiver 30 (*Snell* at Fig. 1, 4:42-43) designed for peer-to-peer communications, such as carrier sense multiple access with collision avoidance (CSMA/CA) communications. See *Snell* at 5:26-29 (disclosing that *Snell*'s transceiver includes a "CCA circuit block 44" that "provides a clear channel assessment (CCA) to avoid data collisions," i.e., collisions which do not occur in a master/slave setting). See also Fig. 1. Systems that implement a CSMA/CA protocol for collision avoidance are distinctly different than a master/slave system. In a CSMA/CA system, any device on the network can initiate a communication whenever the device determines that no other communications are occurring.

*In stark contrast, the claims of the '580 Patent are limited to master/slave communications, as noted above, in which slave devices can only communicate on a network when prompted by a master.*

Akl I, at ¶ 104 (emphasis added). See also *id.* at n. 10 & ¶ 114. One of ordinary skill in the art would not have understood the Harris AN9614 discussion as suggesting more. *Id.* Accordingly, the CRU's position is contrary to how one of ordinary skill in the relevant art would have interpreted the teachings of Snell and Harris AN9614. See Akl I, at ¶¶ 104, 113-120; see also Supplemental 37 C.F.R. § 1.132 Declaration of Dr. Robert Akl (executed Sept. 14, 2017) ("Akl II") (Exhibit G), at ¶ 10.

Further, the CRU's assertion that Snell's transceiver "can be used as an access point ... and is capable of acting as a master in a master/slave relationship" (FOA at 28) is contrary to how one of ordinary skill would understand the use of an access point. An access point would not poll or control anything but rather would merely serve as an interface between the WLAN and the wired network. See *Snell* at 1:36-38. Thus, an access point in the system of Snell (just like that disclosed in Boer (Boer at 2:6-22)) would not act as a master, let alone the master claimed in the '580 Patent. As explained by Dr. Akl:

An access point acts as a distribution point, much like a router with gateway functionality, which allows a device in one network to talk to other devices in that network and/or another network. However, an access point is not the same as a master that controls communications from one or more slaves, where communication from a slave to a master occurs in response to a master communication from the master to the slave. There is no requirement that an access point be so configured. In fact, in Snell, the access point is configured in a peer-to-peer relationship with the other nodes in the network. Snell, 5:24-30.

Akl II, at ¶ 10. Notably, the access point disclosed in Snell is found in the “Background of the Invention” section only and never mentioned again in relation to Snell’s invention. *See* Snell at 1:36-38.

Like Snell and Harris AN9614, Kamerman and Yamano do not disclose and would not have suggested a transceiver that has the structure necessary to perform the master/slave limitations. To the contrary, like Snell and Harris AN9614, both Kamerman and Yamano relate to peer-to-peer communication systems, which are fundamentally different than the master/slave communication system required by claims 2 and 59 of the ‘580 Patent. Kamerman at 6 (disclosing a “CSMA/CS (carrier sensor multiple access with collision avoidance)” protocol), 8 (“IEEE 802.11 CSMA/CA”), 12 (“[t]he CSMA/CA behavior of wireless LANs operating to conform to IEEE 802.11 DS”); Yamano at col. 19, ll. 21-36 (recommending using ‘a carrier sense multiple access (CSMA) scheme’). *See also* Akl I, at ¶ 104 & n. 11 (“Like Snell, Yamano and Kamerman are completely silent regarding any master/slave communications.”).

**d. The PTAB’s Determination that the ‘580 Patent’s Master/Slave Limitations Were Satisfied was Based on Art Not Before the CRU in This Reexamination and was Limited to Claims 1 and 58**

As a fourth and final approach in its attempt to address the master/slave limitations of claims 2 and 59, the CRU alleges “it is determined by PTAB that master-slave relationship is unpatentable subject matter” in the ‘518 IPR. FOA at 29 (with no citation to the IPR or



reasoning to explain the statement's relevance); AA at 10 (same).<sup>24</sup> In fact, the PTAB made no such broad statement. Instead, the PTAB held: "Petitioner has demonstrated by a preponderance of the evidence that claims 1 [and] 58 ... are unpatentable for obviousness over APA and Boer." '518 IPR Final Written Decision (Exhibit II), at 21.

Rembrandt does not deny that claims 1 and 58 were held unpatentable based on the APA and Boer (based on a different record than that now before the Office in this reexamination). The claims now before the Office are different claims, *i.e.*, claims 2 and 59 (again, determined by the PTAB unlikely to be proven unpatentable), and the art now before the Office includes neither the APA nor Boer. Thus, it is unclear why the CRU believes the '518 IPR supports its position. Further, it is unfair to Patent Owner, on the one hand, to ignore the IPR determinations when deciding whether a substantial new question exists (*see supra* at § VI.A) and, on the other, attempt to rely on one of them to support its case.

For at least the reasons given above, the CRU has failed to establish that the cited art (even including Harris AN9614) discloses or would have suggested the master/slave limitations in claims 2 and 59 of the '580 Patent. Thus, all of the rejections should be reversed based on the absence of these limitations alone.

**2. When Construed in Light of the '580 Patent's Prosecution History and Its Specification, the At Least Two Different Types of Modulation Methods Limitations are Not Disclosed and Would Not Have Been Suggested by the Art Relied on by the CRU**

Each of the challenged claims requires that "the second modulation method is of a *different type* than the first modulation method." *See* claims 2 and 59 (quoted above). The CRU defines "[d]ifferent types of modulation method[s]" to mean "modulation methods that are

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<sup>24</sup> Notably, the '518 IPR is the *same* IPR in which the PTAB previously determined that Samsung was unlikely to prove the unpatentability of claims 2 and 59 based on the APA and Boer. *See* '518 IPR Institution Decision (Exhibit HH), at 13-15; *see also the discussion supra* at § VI.A.

incompatible with one another.” NFOA at 7. *See also* FOA at 22-23; AA at 10-12. It then asserts that the “different type” limitation is met by the two *PSK formats* disclosed in Snell, namely the BPSK format and QPSK format:

Snell teaches using two types of modulation methods, i.e., BPSK and QPSK. It is well known in the art at the time of invention of the ‘580 patent that BPSK and QPSK are incompatible because signal modulated using one method cannot be demodulated by another method or the number of phases each of the methods uses to modulate data is different than that of the other. In other words, signal modulated by BPSK method cannot be demodulated using QPSK demodulator or vice versa and therefore they are incompatible with each other.

FOA at 31-32. *See also id.* at 8 (citing Snell at Abstract, 1:58-61, 2:56-59, 2:61-3:5, 6:64-66, 7:6-8, Figs. 2, 3, and 5; Harris 4064.4, at 14-16<sup>25</sup>). The CRU’s position fails for at least three reasons.

First, the cited references do not disclose and would not have suggested incompatible modulation methods at least because none of the cited references discloses or would have suggested any incompatibility problem whatsoever. The CRU does not define the term “incompatible,” but, *in the context of the ‘580 Patent*, first and second modulation methods may be incompatible when, for example, one modem using the first method cannot communicate with a second modem using the second method, *i.e.*, when no common modulation method is shared. *See ‘580 Patent* at 1:45-65; Akl I, at ¶ 125. Importantly, whether two modulation methods are incompatible, as used in the ‘580 Patent, cannot be considered in a vacuum but must be considered in the context in which term or phrase is used. *See* Akl I, at ¶ 125. In the case of Snell, there is no issue of incompatible modulation methods because Snell lacks an

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<sup>25</sup> While the cited figures of Snell and Harris 4064.4 refer to “DBPSK” and “DQPSK,” the inclusion of “D” (Differential) does not change the family in which the modulation method falls. They remain in the same family. Akl I, at ¶ 123, n. 13. Thus, the inclusion of Harris 4064.4 adds nothing to the CRU’s argument.

incompatibility problem. *See id.* *See also* AA at 13 (acknowledging that “Snell ... has no incompatible [*sic*] issues”).

Second, under the proper construction of “different type,” there can be no dispute that BPSK format and QPSK are in the same family. Akl I, ¶ 123. Neither Yamano nor Kamerman cures this deficiency. *Id.* As noted by Dr. Akl, BPSK and QPSK are part of the same family because they both encode data through phase shift keying of the transmitted signal, i.e., they both alter phase of the transmitted signal. *See also, Rembrandt Wireless Techs.*, 853 F.3d at 1379 (“[T]he fact that Boer's DBPSK and PPM/DQPSK modulation methods both alter phase is substantial evidence to support the jury’s presumed fact finding that Boer did not teach the ‘different types’ limitation.”).

With respect to the CRU’s definition of “different type” to mean methods that are incompatible, the lack of any incompatibility problem faced by Snell (including Harris AN9614 and Harris 4064.4), Yamano, and Kamerman explains why none discloses or even suggests the invention claimed in the ‘580 Patent, including the indication that “*communication from the master to the slave has reverted to the first modulation method.*” *See* the discussion *infra* at § VI.G.1. That incompatibility problem was identified and solved *in a master/slave setting*, as described in the ‘580 Patent, and was specific to a master/slave setting when a master attempts to communicate with a slave using an incompatible modulation method. Part of the claimed solution requires the master to indicate when communication “has reverted to the first modulation method” so that the master can communicate using the first modulation method rather than the incompatible method previously used. Again, the named inventors of the peer-to-peer communications systems described in the cited references were not faced with that problem. Instead, they were faced with different problems that resulted from the fundamentally different

ways their peer-to-peer systems accessed the shared medium. Akl I, at ¶¶ 126-128. Those “fundamentally different ways” involve peer-to-peer communications, such as CSMA and CDMA types, instead of those between a master and a slave. Akl I, at ¶ 128. *See also supra* at § VI.F.1.b.

In particular, the problems Snell (including Harris 4064.4), Yamano, and Kamerman were facing and attempting to address (*e.g.*, collisions, interference, and the like) were specific to peer-to-peer communication systems. *See, e.g.*, Snell at 1:64-2:19 (describing a problem with prior art DSSS), 2:22-30 (summarizing Snell’s solution to the problem), 3:40-43 (discussing the need for a “clear channel”), 5:23-29 (identifying how “to avoid data collisions”), 5:54-59 (identifying how to “combat multi-path and reduce the effects of interference”); Yamano at 11:62-12:9 (explaining the interference problem), 19:21-36 (explaining how to address the collision problem using CSMA system); Kamerman at 6 (explaining how CSMA/CA “is designed to reduce the collision probability between multiple stations”), 11 (discussing the problem “due to mutilation of transmissions by interference”). *See also* Akl I, at ¶ 129.

For these reasons, none of the cited references identifies or addresses incompatible modulation methods, as are identified and addressed in the ‘580 Patent in a master/slave system when attempting to allow a master to communicate using different, incompatible modulation methods. Thus, they do not disclose and would not have suggested the problem of incompatible modulation methods, let alone the claimed solution to that problem provided in the ‘580 Patent. Without recognition of the incompatibility problem created by incompatible modulation methods in a master/slave setting, one skilled in the art would not have turned to any of the peer-to-peer disclosures in the cited references to solve that problem. Akl I, at ¶ 130. *See also In re Prater*, 415 F.2d at 1405-06 (CCPA 1969) (quoted above in § VI.B).

In response, the CRU states that “whether QPSK and BPSK are incompatible has nothing to do with whether there is any incompatible [*sic*] issues in Snell because a system such as Snell can handle different modulation methods but has no incompatible [*sic*] issues.” AA at 13. Here, the CRU has missed the incompatibility point entirely. “[T]he issue relating to modulation methods in the ‘580 Patent was whether the methods were ‘incompatible’ in the claimed invention such that the transceivers could not communicate with each other.” Akl II, at ¶ 14. *See also* ‘580 Patent at 1:56-2:15. In the peer-to-peer system of Snell, each transceiver can communicate using all of the available PSK modulations methods (*i.e.*, 1 Mbit/s BPSK, 2 Mbit/s QPSK, 5.5 Mbit/s BPSK, and 11 Mbit/s QPSK), which allows a transceiver to use any of the available PSK modulation methods without consideration of whether another peer is compatible with the modulation methods. *See* Snell at FIG. 1 & 3, 6:51-59. As explained by Dr. Akl:

[T]he transceiver 30 of Snell is capable of communicating using any of “1 Mbit/s BPSK,” “2 Mbit/s QPSK,” “5.5 Mbit/s BPSK,” and “11 Mbit/s BPSK.” Snell at 5:30-36, 6:51-59. Snell does not disclose or suggest that Snell’s transceiver 30 and another transceiver are incompatible in any way when operating at one or more of 1 Mbit/s BPSK, 2 Mbit/s QPSK, 5.5 Mbit/s BPSK, and 11 Mbit/s BPSK. *Id. passim*. Instead, Snell’s transceivers are all capable of communicating with each other using any of 1 Mbit/s BPSK, 2 Mbit/s QPSK, 5.5 Mbit/s BPSK, and 11 Mbit/s BPSK based on whether the bits of the SIGNAL field are “0Ah,” “14h,” “37h,” or “6Eh.” *See* Snell at 6:51-59.

Akl II, at ¶ 15. As incompatibility was not an issue Snell faced, neither of the BPSK and QPSK modulation methods used by the transceiver of Snell was incompatible with the other. Thus, there is no disclosure in Snell of the claimed “different type[s]” of modulation methods. *See id.*

Without supporting its assertion and ignoring the context in which BPSK and QPSK are used, the CRU states that “BPSK is a different type of modulation method than QPSK because they use different algorithms when performing modulation and the data modulated with BPSK cannot be demodulated with a QPSK demodulator or vice versa.” FOA at 31; AA at 12. That

bare assertion is simply incorrect. BPSK is a simplified version of QPSK, where two of the four quadrants in the QPSK constellation are null. Akl II, at ¶ 11. As a result, a demodulator that is able to demodulate a QPSK signal can also demodulate a BPSK signal. See Akl II, at ¶¶ 11-13.

As explained by Dr. Akl:

If a QPSK demodulator received a BPSK transmission, the QPSK demodulator would produce all of the information in the in-phase channel of the BPSK transmission. That is, a *QPSK demodulator is a BPSK demodulator* that additionally produces information from the quadrature channel. See, e.g., Snell at 7:60-8:1 (disclosing that, for QPSK, the I channel is formed, and “[t]he Q channel is processed in parallel in the same manner,” but, for BPSK, “only I sym is output.”), 8:29-32 (“For QPSK, errors are generated from both rails, and for BPSK, the error is only generated from the I rail. QPSK En disables the Q rail phase error for BPSK operation.”). Similarly, a QPSK modulator can transmit a BPSK transmission by simply turning off the quadrature channel and using only the in-phase channel. See, e.g., Snell at 5:63-6:3 (“For QPSK, 2 nibbles are presented in parallel ... the first nibble from the B serial-in/parallel-out SIPO circuit block 52b and the second from A SIPO 52a. ... For BPSK, nibbles are presented from the A SIPO 52a only. The B SIPO 52b is disabled.”). Accordingly, even under the Office’s unreasonably broad interpretation, the BPSK and QPSK of Snell are not “different type[s]” of modulations methods as required by claims 2 and 59 of the ‘580 patent because, contrary to the Office’s assertion, a BPSK signal can be demodulated with a QPSK demodulator.

Akl II, at ¶ 13 (emphasis added).

In response, the CRU asserts that “specific handling or modification must be made in order for a QPSK demodulator to demodulate a BPSK signal.” AA at 12 (again without support). This assertion is incorrect. The only difference is that a QPSK demodulator uses only the in-phase channel to demodulate a BPSK signal (instead of using both the in-phase and quadrature channels). Akl II, at ¶¶ 11-13. See also Snell at 8:29-32 (“For QPSK, errors are generated from both rails, and for BPSK, the error is only generated from the I rail. QPSK En disables the Q rail phase error for BPSK operation.”).

To further support its position that BPSK and QPSK are incompatible modulation methods, the CRU also relies on silence in Akl II “on whether a BPSK demodulator can demodulate QPSK signal [*sic*],” which the CRU interprets as “further impl[ying] that QPSK and BPSK are different modulation methods.” AA at 12. Here again, the CRU is incorrect because a BPSK demodulator would produce all of the information in the in-phase channel of the QPSK transmission. *See* Akl II, at ¶ 11 (“BPSK is a simplified version of QPSK, where two of the four quadrants in the QPSK constellation are null.”), ¶ 12 (both BPSK and QPSK use “the in-phase channel”). *See also* Snell at Snell at 7:60-8:1 (disclosing that, for QPSK, the I channel is formed, and “[t]he Q channel is processed in parallel in the same manner,” but, for BPSK, “only I sym is output.”). Regardless, BPSK and QPSK are not incompatible modulation methods as used in the system of Snell because (i) they use a common PSK modulation method and (ii) Snell’s transceiver is designed to communicate using both BPSK and QPSK modulation methods.

The CRU relies on the PTAB’s interpretation of “different type” in the ‘518 IPR, again without any citation to the record. FOA at 32; AA at 11-12. The CRU again ignores the fact that, in the ‘518 IPR, different art was before the PTAB, and different claims were being addressed. *See* ‘518 IPR Final Written Decision (Exhibit II), at 21. And, again, in the ‘518 IPR, claims 2 and 59 were not determined to be unpatentable. *See id.*; ‘518 IPR Institution Decision (Exhibit HH), at 17 (quoted above in § VI.A.4). *See also the discussion supra* at § VI.A.4.

Third, as explained above, and confirmed by the Federal Circuit, the proper construction of “different types of modulation methods” requires “*different families* of modulation techniques, *such as the FSK family* of modulation methods and the QAM family of modulation methods.” *Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, 853 F.3d 1370, 1376-77 (Fed. Cir. 2017) (“[T]he *clearest* statement in the intrinsic record regarding the meaning of the ‘different types’

limitation is the descriptive statement the applicant made to the examiner when he inserted the limitation into the claims. Samsung’s arguments to the contrary do not diminish this *unambiguous* statement in the prosecution history.”) (emphasis added). *See also supra* at § VI.C (discussing the broadest reasonable interpretation of this limitation).

For at least the reasons given above, the cited references do not disclose and would not have suggested the claimed at least two different *types* of modulation methods required by claims 2 and 59 of the ‘580 Patent. For this reason alone, all of the CRU’s rejections should be reversed.

**3. The Claimed Third Sequence is Not Disclosed and Would Not Have Been Obvious Based on Snell, Alone or In Combination with Yamano or Kamerman**

Claims 2 and 59 require that “the transceiver [be] configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method *and* indicates that communication from the master to the slave *has reverted* to the first modulation method” (emphasis added). Thus, the “third sequence” requires more than just being “transmitted in the first modulation method,” *i.e.*, the word “and” requires it to contain information that “indicates that communication from the master to the slave has reverted to the first modulation method.” Due to the “third sequence” limitation, in the ‘518 IPR, the PTAB determined that Samsung had failed to “demonstrate a reasonable likelihood of prevailing on the obviousness grounds of unpatentability as to claims 2 ... and 59 based on APA and Boer.” ‘518 IPR Institution Decision (Exhibit HH), at 17. *See the discussion supra* at § VI.A.4 regarding the substantial new question issue.

The cited references do not disclose and would not have suggested the claimed transceiver capable of transmitting the claimed “third sequence” limitation. Akl I, at ¶¶ 131-151. Again, the reason why Snell and the other references do not teach and would not have suggested



the claimed invention – particularly the third sequence limitation -- is because of the fundamentally different systems and the very different problems/solutions presented due to those fundamental differences. *See* the discussion *supra* at §§ III.C. & VI.F.1.b; Akl I, at ¶¶ 94-97, 131, 133. Only through hindsight and a contrived application of disclosures in peer-to-peer communication systems is the CRU able to arrive at the invention claimed in the ‘580 Patent, including the third sequence (a sequence that permits a master to communicate with one or more slaves using a modulation type that is incompatible with that used by other slaves in a master/slave system). *See id.* Notably, the PTAB refused to do what the CRU is now attempting to do. *See* ‘518 IPR Institution Decision (Exhibit HH), at 17 (quoted above at § VI.A.4).

**a. Snell Does Not Disclose and Would Not Have Suggested the Third Sequence**

The CRU posits that the PLCP preamble and the PLCP header of Snell in a CRU-created “next packet” correspond to the claimed “third sequence.” FOA at 9, 11-12 (citing Snell and stating that “PLCP preamble and PLCP header is ‘transmitted in the first modulation method’ e.g., BPSK, ... the data can be modulated according to a method different than BPSK, then a ‘third sequence,’ with its ‘SIGNAL’ field in the PLCP header, ‘indicates,’ e.g., using ‘0Ah,’ the modulation type, e.g., BPSK, for modulating the MPDU data of the next packet or the third sequence”). *See also* FOA at 7 (citing Snell and taking substantially the same position). In particular, the CRU posits two instances of FIG. 3 with the CRU referring to the first instance of FIG. 3 as “a first packet” and to the second instance of FIG. 3 as a “second packet.” FOA at 35. The CRU-created “first packet” has a SIGNAL field with a value of “14h,” which indicates that the MPDU (variable) data of the “first packet” is modulated by 2 Mbit/s QPSK, and the CRU-created “second packet” has a SIGNAL field with a value of “0Ah,” which indicates that the MPDU (variable) data of the “second packet” is modulated by 1 Mbit/s BPSK. *Id.*

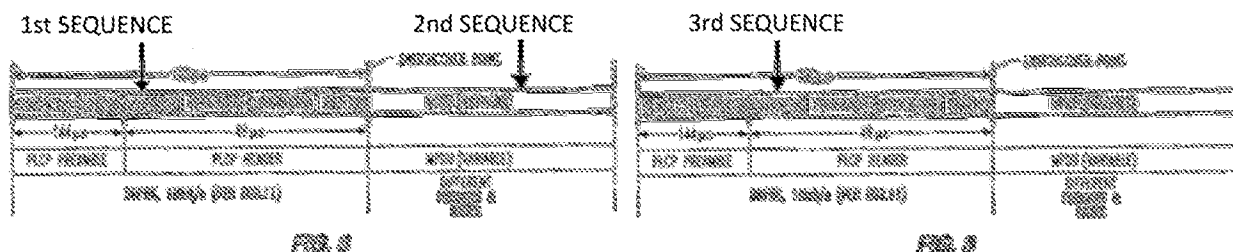
As illustrated below, the CRU asserts that the CRU-created first and second packets include sequences corresponding to the first, second, and third sequences of claims 2 and 59 in the following manner:

First sequence ----- PLCP header including SIGNAL field of a first packet – SIGNAL field is modulated using BPSK. The value of SIGNAL is “14h.”

Second sequence ----- MPDU (variable) shown in Fig. 3, modulated by 2Mbits/S QPSK indicated by “14h” (see col. 6, lines 47-63 of Snell).

Third sequence ----- PLCP header including SIGNAL field of a second packet – SIGNAL field is modulated using BPSK. The value of SIGNAL is “0Ah,” indicating the modulation for the MPDU (variable) data for the second packet has reverted to BPSK.

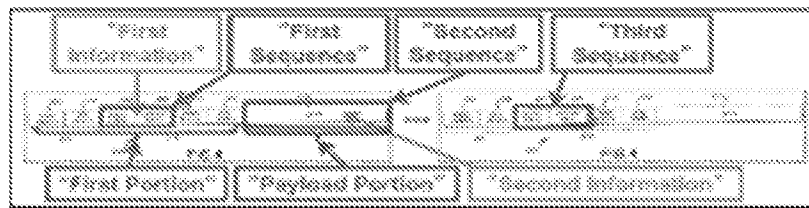
FOA at 35.



In the ‘518 IPR, Samsung made substantially the same argument that the CRU is now making based on, *inter alia*, Boer and his transmission of multiple sequences using a plurality of data rates:

Dependent claim 2 requires that the transceiver “transmit a third sequence after the second sequence.” This limitation is in both the APA and Boer. In the APA, transmission of multiple sequences is shown in Figure 2, with an exemplar “third sequence” being training sequence 48. *See also* Ex. 1201, 4:4-50. Boer teaches this as well. Ex. 1204, 1:33-40 (“Therefore, according to the present invention, there is provided a method of operating a wireless local area network station adapted to transmit and receive messages *at a plurality of data rates*, wherein said messages include an initial portion and a data portion, including the steps of: transmitting the initial portion of a message to be transmitted by a station at a first predetermined one of a first plurality of data rates...”). *A subsequent transmission of SIGNAL 206 and SERVICE 208 fields would be the “third sequence.”* The

annotated figure [below] illustrates the arrangement of “information,” “portions,” and “sequences” according to claim 1. Ex. 1220, ¶¶141-142.



‘518 IPR Petition (Exhibit II), at 24-25 (emphasis added). This argument was properly rejected by the PTAB. See ‘518 IPR Institution Decision (Exhibit HH), at 13-15 (quoted above at § VI.A.4). The CRU’s argument based on Snell should be rejected as well.

In particular, with respect to the third sequence limitation alone, the CRU’s rejection cannot stand for at least five reasons.

First, the citations relied on by the CRU merely support the position that, while the header is always transmitted at 1 Mbit/s BPSK, the “MPDU is variable” (Snell at 6:62-65) and may be sent using BPSK or QPSK. Snell at 7:10-14 (“The variable data *may be* modulated and demodulated in different formats than the header portion ...” (emphasis added)). The PTAB previously considered substantially the same argument with respect to substantially the same disclosure in Boer and concluded such a disclosure was not sufficient to even institute an IPR of claims 2 and 59 because that disclosure failed to show “how the SIGNAL and SERVICE fields might be deemed, as alleged, to ‘indicate’ that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2” and claim 59. See ‘518 IPR Institution Decision (Exhibit HH), at 13-15 (quoted more extensively in § VI.A.4). See also the comparison of Snell’s FIG. 3 (heavily relied on by the CRU) with Boer’s FIG. 4 in Exhibit C. The CRU does not address this conclusion, except to state that the “PTAB did not institute review of claims 2 and 59 and therefore the teaching presented by Snell and references incorporated by Snell regarding claims 2 and 59 is new and non-cumulative.” FOA at 17.

Second, claims 2 and 59 *require* a very specific ordering of specific sequences: a “first sequence” in a “first modulation method,” followed by a “second sequence” in a “second modulation method,” followed by a “third sequence” that “is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” Snell never discloses and would not have suggested this specific ordering of specific sequences and only includes one instance of the signal/packet illustrated in FIG. 3. Akl I, at ¶ 138. As a result, the CRU is forced to rely on hindsight to recreate the claimed invention by manufacturing the specific two instances of FIG. 3 of Snell with the particular values (i.e., “14h” and “0Ah”) assigned to the SIGNAL fields. *See* FOA at 35. In other words, with the aid of hindsight, the CRU selects values for the SIGNAL fields in the CRU-created first and second packets that suit its purposes with respect to the claimed first, second, and third sequences. In fact, Snell never even mentions when these CRU-created packets with these particular SIGNAL values and relatively low data rates for the MPDU data field would be used, if at all, or even in what situations they would be used, as his focus is on using higher rates, *i.e.*, 5.5 and 11 Mbit/s. *See* Snell *passim*.

Summarizing, nowhere does Snell explicitly or inherently teach the CRU-created first and second packets (*i.e.*, the two different instances of FIG. 3), which include a first instance of FIG. 3 with a MPDU data field modulated using 2 Mbit/s QPSK and an immediately subsequent second instance of FIG. 3 with a SIGNAL field indicating its MPDU data field will use 1 Mbit/s BPSK modulation. Akl I, at ¶ 141. Without the benefit of hindsight (*i.e.*, in view of the ‘580 Patent teachings), Snell does not disclose and would not have suggested the specific different versions of its FIG. 3 packet with the particular values (*i.e.*, “14h” and “0Ah”) assigned to the SIGNAL fields proposed by the CRU. *See id.*

Third, Snell discloses “switch[ing] on-the-fly between different data rates and/or formats.” Snell at 2:29-30. However, contrary to the position of the CRU, *see* FOA at 9 & 32 (citing Snell at 2:27-30), the on-the-fly switching of Snell does not provide support for the CRU-created first and second packets (*i.e.*, the specific first and second instances of FIG. 3 of Snell). More specifically, the ability of Snell’s transceiver to “switch on-the-fly” is not a teaching of sending multiple packets of the signal format shown in FIG. 3 that switch from using a second modulation method *for the payload portion* of the first packet to using a first modulation method *for the payload portion* of the second packet, which the CRU refers to as the “second packet” or the “next packet.” Akl I, at ¶ 143 (citing Snell at Fig. 3). That is, Snell’s on-the-fly switching does not teach and would not have suggested that the claimed “third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method,” as the CRU posits. *Id.* at ¶ 144.

To the contrary, the on-the-fly switching of Snell relates to a modulation switch between the PLCP header and the MPDU *variable* data portion *within a single* packet having the signal format shown in FIG. 3. Akl I, at ¶ 144 (citing Snell at Fig. 3 (clearly showing the “switchover point” to be between the PLCP header and the MPDU variable data portion of the signal format), 3:18-20 (“The carrier tracking loops permit switching to the desired format *after the header* and on-the-fly.” (emphasis added)), 7:10-14 (“The *variable data* may be modulated and demodulated in *different formats than the header portion* to thereby increase the data rate, and while a switchover as indicated by the switchover point in Fig. 3, occurs on-the-fly.” (emphasis added))). Snell does not disclose and would not have suggested first and second packets of the signal format shown in Fig. 3 having payload portions modulated using different methods and certainly

does not disclose and would not have suggested the specific second packet the CRU created using the claimed invention as a roadmap. Akl I, at ¶ 144.

Accordingly, Snell does not disclose and would not have suggested that Snell's transceiver "is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method." Akl I, at ¶ 145. In fact, there would have been no motivation for Snell to "indicate" a reversion to "the first modulation method" because Snell can transmit/receive using all modulation methods. *Id.* In other words, there was no incompatibility issue that required such notification when a switch in modulation methods is made. *Id.* And that is what the '580 Patent is all about. *See the discussion supra* at § III.C.

Fourth, Snell does not have and would not have suggested the master/slave limitations and therefore could not "indicate[] that communication from the master to the slave has reverted to the first modulation method." Akl I, at ¶ 142. Further, even assuming, *arguendo*, that it would have been obvious to modify Snell to be a master/slave system, and that such modified system used the same signal format of FIG. 3 of Snell (*id.*), Snell does not does not disclose and would not have suggested that this signal format includes a "third sequence . . . [that] indicates that communication . . . has reverted to the first modulation method." *See id.* at ¶¶ 137-138, 142. Snell's SIGNAL field in the PLCP header only "indicates" the modulation format and rate of the subsequent MPDU for that packet. Snell at 6:52-59. Snell does not explicitly or inherently teach that the SIGNAL field also "indicates that *communication [i.e., the MPDU data]* from the master to the slave has reverted to the first modulation method" (emphasis added). Thus, the PLCP header including the SIGNAL field cannot be the claimed "third sequence" that "indicates that

communication from the master to the slave has reverted [from the second modulation method] to the first modulation method.” *See* Akl I, at ¶ 142.

Fifth, the CRU refuses to consider Rembrandt’s argument that the reason Snell does not disclose and would not have suggested the claimed third sequence is because Snell was addressing a different problem (*i.e.*, providing a transceiver capable of operating at higher data rates in a peer-to-peer setting) and not the problem the ‘580 Patent identified and solved with its claimed invention in a master/slave setting:

Patent Owner’s argument that the references fail to show certain features of Patent Owner’s invention, it is noted that the features upon which Patent Owner relies (*i.e.*, the reason behind the ‘580 claims) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *See In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

FOA at 36. For the reasons given above, such a response ignores (1) the very different teachings in the ‘580 Patent and in Snell and (2) the limitations in the claims that provide the solution to the problem identified and solved by Mr. Bremer. *See* the discussion *supra* at § III.C.2; Akl I, at ¶¶ 104-109. *See also In re Prater*, 415 F.2d at 1405-06 (quoted above in § VI.B).

**b. Yamano and Kamerman Do Not Disclose and Would Not Have Suggested the Third Sequence**

Neither Yamano nor Kamerman makes up for the deficiencies of Snell. Yamano is only applied for its disclosure of a destination address in an effort to provide an address “for an intended destination of the payload portion” as recited in independent claim 1 (FOA at 9) and an address “for an intended destination of the second sequence,” as recited in independent claim 58. FOA at 12. Yamano is not applied to the “third sequence” limitation, so it will not be further discussed here.

As to Kamerman, the CRU concludes that “[a] person of ordinary skill in the art would have been motivated and found it obvious to use Kamerman’s teaching of transmitting a first data packet where the data is modulated using a second modulation method and next transmitting a second data packet where the data is modulated using a first modulation method in implementing Snell’s system for communicating data packets modulated according to different modulation methods to advantageously maximize the data transfer rate and adapt to changing channel conditions.” FOA at 15 (citing Kamerman at 6, 11-12).

Kamerman, *just like the previously and fully considered Boer reference*,<sup>26</sup> discloses a transmission rate that “falls back” during higher load conditions and that “goes up” during load conditions that occur “most of the time.” Akl I, at ¶ 148 (quoting Kamerman at 11). There is no teaching or suggestion that it would “fall back” to address an incompatibility issue when a master – which it does not have and would not have suggested – wants to communicate with a slave – which it does not have and would not have suggested. Akl I, at ¶ 148. Further, Kamerman is completely silent about how the transceiver would indicate changes to the transmission rate. Just like the disclosure in Boer, nothing in Kamerman relied on by the CRU requires that the transceiver in Kamerman “indicate[] that communication from the master to the slave has reverted to the first modulation method.” Rather, Kamerman merely summarizes Boer’s, his, and other’s work described in the Boer patent and does not provide any further information relevant to the patentability of claims 2 and 59. Akl I, at ¶ 148.

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<sup>26</sup> See Boer, at 7:12-8:16. See also Akl I, at ¶¶ 64-68 and the discussion regarding no substantial new question *supra* at § VI.A. In fact, Kamerman is a named inventor on the Boer et al. patent, and the Kamerman paper merely describes a high-level presentation about the work disclosed in the Boer patent. It appears Kamerman was permitted to talk about the invention disclosed in the Boer patent once the application was filed. Such a procedure is typical with companies, particularly large companies like Lucent Technologies (assignee of the Boer patent and Kamerman’s employer). See Akl I, at ¶ 64, note 5.



Notably, maximizing the data transfer rate and adapting to changing channel conditions in a peer-to-peer communications system – objectives of Snell, Boer, and Kamerman -- would not have provided the solution to the incompatibility problem identified and claimed in the ‘580 Patent, *i.e.*, it would not have provided a “transceiver configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.” Claims 2 and 59. *See* Akl I, at ¶ 149.

Instead, if Snell were modified in the proposed manner (*i.e.*, implementing Kamerman’s automatic rate selection in Snell’s system), Snell’s transceiver would increase the transmission rate during lower load periods (e.g., as indicated by “a number ... of successive correctly acknowledged packet transmissions”) and would decrease the transmission rate during higher load periods (e.g., as indicated by “unacknowledged packet transmissions”). Akl I, at ¶ 150 (citing Kamerman at 11). Such modifications would not provide the claimed third sequence, as Kamerman’s rationale as to when to change modulation methods has *nothing to do with* making a change in modulation method so that a master can communicate with a particular slave using a different modulation method to address a potential incompatibility issue. Akl I, at ¶ 151. For that reason alone, one of ordinary skill would not have been motivated by Kamerman to vary the modulation method when needed to address the ‘580 Patent incompatibility problem as done in the ‘580 Patent, *i.e.*, to provide a “third sequence [that] indicates that communication from the master to the slave has reverted to the first modulation method.” *See id.*

In response to these arguments, the CRU asserts that:

Kamerman discloses an automatic rate selection scheme for reverting (e.g. falling back) from a “second modulation method” (e.g., QPSK) corresponding to a higher data rate (e.g., 2Mbits/s) to a “first modulation method” (e.g., BPSK) corresponding to a lower data rate (e.g., 1 Mbit/s) after unacknowledged packet

transmissions, for instance where there is a high load in neighbor cells causing cochannel interference (pp. 6, 11 and 12). The third sequence is the unacknowledged packet or a number of successive correctly acknowledged packet transmission.

FOA at 39; AA at 13. Again, as with Snell, the CRU's argument is based on hindsight reconstruction of Kamerman. There is no support for equating Kamerman's unacknowledged packet to the claimed "third sequence" that "is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method." Kamerman's disclosure adds nothing to that of Boer, and the PTAB has already determined that APA's and Boer's *at least* cumulative teachings are insufficient to invalidate the claims of the '580 patent. '518 IPR Institution Decision (Exhibit HH), at 13-15 (quoted above). *See also* '114 IPR Institution Decision (Exhibit KK) (denying institution of Samsung's petition for IPR of claims 2 and 59 based on APA and Boer under § 325(d) "because it present[ed] merely 'the same or substantially the same prior art or arguments' presented ... in IPR '518."); Exhibit E (comparing Samsung's arguments in this reexamination with those it made in its '114 IPR Petition based on Boer).

The absence of any teaching or suggestion of the claimed third sequence in Snell, Yamano, or Kamerman, considered alone or in combination, as explained above, dictates that the rejections of claim 2 and 59 be reversed.

**G. It Would Not Have Been Obvious to Adapt Snell to a Master/Slave System or Combine Snell with Kamerman and/or Yamano**

**1. It Would Not Have Been Obvious to Adapt Snell to a Master/Slave System to Solve the Problem Identified and Solved in the '580 Patent Because of the Fundamental Differences Between Peer-to-Peer and Master/Slave Communications**

All the outstanding rejections must be reversed because they share a common, significant deficiency – one that weighs against the CRU's proposed combinations. As previously noted,

none of Snell, Yamano, or Kamerman discloses communications in a master/slave setting *at all*, even if Harris AN9614 and Harris 4064.4 had been successfully incorporated by reference into Snell (which they were not<sup>27</sup>). *See* the discussion *supra* at § VI.F.1; Akl I, at ¶¶ 101-120, 152. And, even if adapting Snell to a master/slave setting were suggested (which it was not), it would not have been obvious to combine the art in such a way that would have yielded the claimed invention because there was no recognition of the problem identified and solved in the ‘580 Patent. That problem was specific to a master/slave system when a master attempts to communicate with a slave using an incompatible modulation method. *See* detailed discussion *supra* at § III.C.1; Akl I, at ¶¶ 81-97, 153. The named inventors of the peer-to-peer systems described in the references were not faced with that problem and thus would have had no reason to invent the ‘580 solution. Akl I, at ¶ 154. Instead they were faced with different problems that resulted from the fundamentally different ways their systems accessed the shared medium. Akl I, at ¶¶ 133, 154. As previously noted, those “fundamentally different ways” involved peer-to-peer communications, such as CSMA and CDMA types, instead of those between a master and a slave. *See supra* at § § VI.F.1.b; Akl I, at ¶¶ 94-97, 104-109, 154.

The CRU responds to this argument by again attempting to ignore the master/slave limitations. FOA at 38 (“A master/slave communication relationship is not a structure. It is not clear how it can be part of a transceiver.”). For the reasons explained above in §§ VI.B & VI.F.1.a, the master/slave limitations are structural limitations and cannot be ignored.

The CRU posits alternatively that:

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<sup>27</sup> As earlier argued, the evidence of record does not establish that these two Harris Documents are prior art. *See supra* at § VI.E.1-2. In any case, neither discloses a master/slave system. Akl I, at ¶¶ 112-120. The “polled scheme” briefly discussed in Harris AN9614 does not necessarily disclose a master/slave system, *see id.*, does not explain how Snell would be adapted to address the problem addressed in the ‘580 Patent, and in any case is not particularly identified as being incorporated by reference. *See* the discussion *supra*, at § VI.E.3.

To the extent that a master/slave relationship should be given patentable weight, Snell discloses a spread spectrum transceiver that can be used as an access point for WLAN or wireless local area network (col. 1, lines 34-46) and is capable of acting as a master in a master/slave relationship (Harris AN9614 at p. 3). On contrary to Patent Owner's statement, Snell's transceiver is not setup only in a peer to peer communication. In fact, Snell is silent on what kind of setting the transceiver is in. An ordinary skill in the art would be able to configure it to use in the master/slave setting.

FOA at 38-39.

For the reasons explained above in § VI.F.1.c, the CRU's position that Snell's transceiver "can be used as an access point ... and is capable of acting as a master in a master/slave relationship" is contrary to how one of ordinary skill would have understood the use of an access point. *See* Akl II, at ¶ 10 ("[A]n access point is not the same as a master that controls communications from one or more slaves ... In fact, in Snell, the access point is configured in a peer-to-peer relationship with the other nodes in the network. Snell, 5:24-30.").

Moreover, the CRU's assertions that "Snell's transceiver is not setup only in a peer to peer communication" and that "Snell is silent on what kind of setting the transceiver is in" are incorrect. Snell discloses that its transceiver includes a "CCA circuit block 44" that "provides a clear channel assessment (CCA) to avoid data collisions." Snell at 5:26-29. *See also id.* at FIG. 1 ("CCA"). While data collisions occur in a peer-to-peer system in which "any device on the network can initiate a communication," they "do not occur in a master/slave setting" in which "slave devices can only communicate on a network when prompted by a master." Akl I, at ¶ 104. The PRISM chip set of Harris AN9614 also includes clear channel assessment (CCA) to avoid data collisions, Harris AN9614 at Fig. 1 ("CCA"), and the "polled scheme" of Harris AN9614 is used "in the context of peer-to-peer communications." Akl I, at ¶ 103 (note 10). *See also id.* at ¶ 114 ("the discussion of a 'polled scheme' [in Harris AN9614] refers to polling as

part of peer-to-peer communications, not master/slave communications”), ¶ 117 (“polling can and does take place in peer-to-peer systems (like the CCA systems described at col. 5, lines 26-29 of Snell)”), ¶ 119 (“there is no suggestion in Harris AN9614 that its ‘polled scheme’ is taking place in anything other than the peer-to-peer communications protocol being discussed in Harris AN9614”).

While, with the invention of the ‘580 Patent before him/her, the skilled artisan *might* have been able to configure Snell’s transceiver for use in a master/slave setting, without such hindsight, such a reconfiguration would not have been suggested to one of ordinary skill in the art due to the fundamental differences between communications in master/slave and peer-to-peer system. For example, the peer-to-peer system of Snell in which a peer may communicate in any one of four data rates only works because the peer may assume that the other peers in the system are also able to communicate using any of the four data rates (i.e., there is no incompatibility problem to address). *See* Akl I, at ¶¶ 94-97, 104, 128-130.

**2. The “Polled Scheme” Disclosure in Harris AN9614 is Limited to “Single Rate” Applications and Thus, Even if Combined with Snell, Does Not Disclose and Would Not Have Suggested the Claimed At Least Two Modulation Methods**

The “polled scheme” disclosure in Harris AN9614 at page 3 is not of a communications system using multiple modulation methods, as claimed in the ‘580 Patent. Harris AN9614’s “polled scheme” appears in a section of Harris AN9614 dedicated to describing a protocol where burst transmissions are used for achieving a “Low Average Data Rate” by operating the PRISM 1 chip at a *single, low data rate of 1 MBPS*:

The system approach is to accept the *1 MBPS data rate* of the radio as long as the achievable range is acceptable, and use it in a short burst mode which is consistent with its packet nature. With a low power watch crystal, the controller can keep adequate time to operate either in a polled or time allocated scheme. In these modes, the radio is powered off most of the time and only awakens when

communications is expected. ... With these techniques, the average power consumption of the radio can be reduced by more than an order of magnitude while meeting all data transfer objectives.

Harris AN9614 at 3 (emphasis added).

There is nothing in Harris AN9614 suggesting that its 1 MBPS system should be or even could be used in combination with the higher data rate schemes described in the body of Snell. Put another way, there is nothing in Harris AN9614 suggesting that its 1 MBPS polled scheme could be used, for example, to accomplish the scheme depicted at FIG. 3 and col. 6, lines 49-50 of Snell, which the CRU has mapped to other elements in claims 2 and 59 of the '580 Patent.

In order for the CRU's rejection to stand, the elements in Snell/Harris AN9614 must be "*arranged or combined in the same way as recited in the claim,*" regardless of whether it is based on expressed or inherent disclosure. *See, e.g., Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1368-71 (Fed. Cir. 2008) (holding that "unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102" and citing numerous cases supporting its holding); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) ("Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim."). The CRU has not shown such an arrangement.

Rather, Harris AN9614 suggests adapting its "high data rate configuration" to one using 1 MBPS *only* in order to avoid "the design considerations ... of concern" with high data rate configurations. *See* Harris AN9614 at 3. Significantly, this suggestion is directly contrary to Snell's goal of obtaining higher variable data rates "from 1 Mbit/s BPSK and 2 Mbit/s QPSK to

5.5 Mbit/s BPSK and 11 Mbit/s QPSK,” Snell at 5:30-32. Thus, one of ordinary skill in the art reading Snell and Harris AN9614 would have understood the discussion in Harris AN9614 of a polled scheme to be inapplicable to the *multi-data rate* scheme that is the focus of Snell. Akl I, at ¶ 159. Accordingly, even if Harris AN9614 *were* a publication (it was not), *and* the “polled scheme” of Harris AN9614 *were* incorporated by reference into Snell (it was not), *and* the disclosure of a polled scheme in Harris AN9614 would have suggested a “master/slave relationship” (it would not have), it would not have been obvious to combine Snell with Harris AN9614 in a manner that includes *both* the “polled scheme” of Harris AN9614 and the two modulation methods of Snell. *See* Akl I, at ¶ 159.

The CRU attempts to respond to this argument by mischaracterizing it as an attack on Harris AN9614 “individually where the rejections are based on a combination of references” and where “Snell teaches using multiple modulation methods.” FOA at 40. The CRU then explains that “Harris AN9614 is used to show that the transceiver of Snell can be used in a master/slave relationship.” *Id.* The CRU’s response fails for at least three reasons.

First, the argument is not an attack on Harris AN9614 alone because it explains why one skilled in the art would not have been motivated to make the proposed combinations. Second, the “polled scheme” of Harris AN9614 – even if it were prior art which it is not -- does not disclose and would not have suggested the master/slave limitations for the reasons set forth above in § VI.F.1.c. Third, the CRU has missed Patent Owner’s point entirely. The argument is not that Snell (or Kamerman) does not disclose multiple modulation methods. Instead, the argument is that the “polled scheme” of Harris AN9614 is expressly limited to a single, low data rate of 1 MBPS. Harris AN9614 at 3. Thus, one of ordinary skill in the art would have understood that, if the transceiver of Snell were using the “polled scheme” of Harris AN9614,

the transceiver would use only the 1 MBPS data rate and thus a single modulation method. *See* Akl I, at ¶¶ 156-160. Therefore, Snell, modified according to Harris AN9614, would not meet any of the limitations of claims 2 and 59 in that they require more than one modulation method.

The CRU also attempts to respond to the argument that the “polled scheme” in Harris AN9614 is limited to “single rate” applications by asserting that “claims 1 and 58 recite using multiple modulation methods and it is determined by PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation of claims 1 and 58.” FOA at 40 (with no citation). To the extent the CRU is relying on the ‘518 IPR Final Written Decision (Exhibit II), that reliance fails for the reasons given above. *See supra* at § VI.F.1.d. Moreover, there is no indication that the PTAB previously considered an argument that one of the references before it was limited to single rate applications (as is Harris AN9614).

For at least the foregoing reasons, even if there were motivation to combine the references in the manner proposed, the resulting combination would not result in the invention as claimed.

**3. One of Ordinary Skill Would Not Have Been Motivated to Adapt Snell to a Master/Slave System and *Then* Combine with Kamerman Lacking Any Teachings Regarding the Proposed IEEE 802.11 Standard**

Snell’s disclosure relates to an extension of the “proposed IEEE 802.11 standard.”<sup>28</sup> Significantly, while Snell may have been privy to the proposed standard through the involvement of his employer (Harris) on the standard committee, there is no evidence that the proposed standard itself was publicly known at that time. In fact, the Office has already found that, as of

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<sup>28</sup> *See, e.g.*, Snell at 1:47-50 (describing “a set of integrated circuits for a WLAN under the mark PRISM 1 which is compatible with the proposed IEEE 802.11 standard”); Snell at 5:30-32 (disclosing “an extension of the PRISM 1 product from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK”); and Snell at 4:42-43, 5:30-32 (describing “a wireless transceiver 30” that “may be readily used for WLAN applications in the 2.4 GHz ISM band *in accordance with the proposed IEEE 802.11 standard.*” (emphasis added)).



the priority date of the ‘580 patent, the draft IEEE 802.11 standard was not available to anyone outside the IEEE 802.11 Working Group:

Notably absent ... from the Petition and Mr. O’Hara’s declaration are any assertions or evidence in support of the availability of Draft Standard to individuals other than members of the 802.11 Working Group and those who already knew about Draft Standard or the July 8–12 meeting of the 802.11 Working Group. We do not find sufficient argument or evidence to indicate that the July 8–12 meeting of the 802.11 Working Group (or any other 802.11 Working Group meeting) was advertised or otherwise announced to the public. Nor do we find sufficient argument or evidence that any individual who was not already a member of, or otherwise aware of, the 802.11 Working Group would have known about Draft Standard such that he or she would have known to request a copy or ask to be added to an email list for access to the document.

*Samsung Elecs. Co. Ltd. v. Rembrandt Wireless Techs., LP*, IPR2014-00514, Paper 18 at 7-8 (PTAB Sept. 9, 2014) (Exhibit BB).<sup>29</sup> In view of the above, the CRU’s assertion that the draft IEEE 802.11 standard was “*available at that time*”<sup>30</sup> (FOA at 14), is clearly incorrect.

Without access to the proposed IEEE 802.11 standard, one of ordinary skill reading Snell would know only that the proposed standard used a collision avoidance protocol (like CSA), as that is the only protocol disclosed in Snell. Such a conclusion would have been buttressed by Kamerman, which similarly described the proposed standard only in the context of a CSMA/CA (carrier sense multiple access with collision avoidance) protocol. Akl I, at ¶ 163.

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<sup>29</sup> See also *Samsung Elecs. Co. Ltd. v. Rembrandt Wireless Techs., LP*, IPR2014-00515, Paper 18 at 6-10 (PTAB Sept. 9, 2014) (Exhibit CC); *Samsung Elecs. Co. LTD v. Rembrandt Wireless Techs., LP*, IPR2014-00889, Paper 8 at 7-10 (PTAB Dec. 10, 2014) (Exhibit DD); *Samsung Elecs. Co. LTD v. Rembrandt Wireless Techs., LP*, IPR2014-00890, Paper 8 at 7-10 (PTAB Dec. 10, 2014) (Exhibit EE); *Samsung Elecs. Co. LTD v. Rembrandt Wireless Techs., LP*, IPR2014-00891, Paper 8 at 8-12 (PTAB Dec. 10, 2014) (Exhibit FF).

<sup>30</sup> “Snell and Kamerman are in the same field of art, with both relating to communications between transceivers that use BPSK and QPSK modulation methods to transfer data at different rates according to the draft IEEE 802.11 standard *available at that time*.” FOA at 14 (emphasis added).

Despite the indications in both Snell and Kamerman tying the proposed IEEE 802.11 standard to a collision avoidance protocol, it is the CRU's position that, prior to combining Snell and Kamerman, Snell would have been converted to a master/slave system (although, again, it is not clear how that would be done). Assuming that were done, there would be no reasonable expectation that the Snell transceiver adapted to a master/slave system would function in accord with the draft IEEE 802.11 standard, particularly when both Snell and Kamerman discussed the proposed standard only in connection with collision avoidance protocols. *See* the discussion *supra* at § VI.F.1.b-c; Akl I, at ¶ 164.

In other words, it would not have been obvious to combine Snell with Kamerman *after adapting Snell to a master/slave system* because there is no evidence that Snell would remain compliant with the draft IEEE 802.11 standard. That would have discouraged the skilled artisan from making the suggested combination, as one of the intended purposes of Snell invention was to maintain compatibility with the proposed IEEE 802.11 standard. *See* Snell at 1:47-50 (“PRISM 1 ... is compatible with the proposed IEEE 802.11 standard”), 4:42-46 (a wireless transceiver 30 used “in accordance with the proposed IEEE 802.11 standard”), 5:30-32 (“[t]he present invention provides an extension of the PRISM 1 product”); Akl I, at ¶ 165. Without access to any teachings of the proposed IEEE 802.11 standard, one of ordinary skill in the art would not have any reasonable expectation that Snell's transceiver would still act in accordance with the proposed IEEE 802.11 standard if it were modified to act in a master/slave relationship instead of a peer-to-peer relationship, such as a carrier sense multiple access with collision avoidance (CSMA/CA) relationship. Akl I, at ¶ 166. Accordingly, one of ordinary skill in the relevant art would have been discouraged from modifying Snell's transceiver as suggested by the CRU without a reasonable expectation that it would function as intended, *i.e.*, in accordance with

the proposed IEEE 802.11 standard. *See, e.g., In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984) (prior art reference “teaches away” from proposed modification because the prior art apparatus “would be rendered inoperable for its intended purpose”) (cited in *In re Urbanski*, 809 F.3d 1237, 1243 (Fed. Cir. 2016) and MPEP § 2143.01(V) (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”)). *See also* Akl I, at ¶ 167. Thus, it would not have been obvious to modify Snell’s transceiver to act in the role of the master according to a master/slave relationship and then combine Snell as modified with Kamerman. Akl I, at ¶ 169.

Similarly, given that peer-to-peer communication systems, such as that described in Snell, are fundamentally different than master/slave systems (*see supra* at § VI.F.1.c), one of ordinary skill in the art would have been further discouraged from making the proposed modification of Snell as that fundamental difference would have weighed against having any reasonable expectation that Snell, as modified, would still act in accordance with the proposed IEEE 802.11 standard or would have provided predictable results. Akl I, at ¶ 168. *See also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions”); *L.A. Biomedical Research Inst. at Harbor-UCLA Med. Ctr. v. Eli Lilly & Co.*, 849 F.3d 1049, 1064 (Fed. Cir. 2017) (citing *Genzyme Therapeutic Prods. Ltd. P’ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1373 (Fed. Cir. 2016)) (“In the case of a combination of references that together disclose all the limitations of the claimed invention, the adjudicator must determine ... whether a person of skill in the art at the time of the invention would have had a ‘reasonable expectation of success’ in pursuing that combination.”); *PersonalWeb Techs., LLC v. Apple, Inc.*, 848 F.3d 987,

991 (Fed. Cir. 2017) (citing *In re NuVasive, Inc.*, 842 F.3d 1376, 1381-82 (Fed. Cir. 2016); *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333-34 (Fed. Cir. 2016); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364-67 (Fed. Cir. 2015)) (“the Board had to find that a person of ordinary skill in the art would have been motivated to combine the prior art in the way claimed ... and had a reasonable expectation of success in doing so”); MPEP § 2143.02 (citing *In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed. Cir. 1986)) (“The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success.”); MPEP § 2143.02 (“Obviousness does not require absolute predictability, however, at least some degree of predictability is required.”); MPEP § 2143.01(III) (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007)) (“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art.”).

Thus, *if* Snell *were* adapted to a master/slave system as the CRU suggests (in spite of no motivation to do so), there is no evidence it could have been combined with Kamerman and still conform to the draft IEEE 802.11 standard, and, in fact, the skilled artisan would have been discouraged from making such a combination. Akl I, at ¶¶ 161-169.

The CRU responds to this argument by noting “that the features upon which Patent Owner relies (*i.e.*, compliant to IEEE 802.11) are not recited in the rejected product claim(s)” and by asserting that “[t]he rejection of Snell, in view of Yamano and Kamerman do not rely on the standard either.” FOA at 40-41. In fact, the rejection based on Snell, Yamano, and Kamerman unquestionably relies on the IEEE 802.11 standard to support the CRU’s assertion that “Snell and Kamerman are in the same field of art.” FOA at 14 (asserting incorrectly that “the draft IEEE 802.11 standard [was] available at that time”). Moreover, the CRU’s response

misses the mark because Patent Owner's argument is not predicated on the recitation of compliance with the IEEE 802.11 standard in the claims or the reliance on the IEEE 802.11 standard in the rejections. Instead, Patent Owner's argument is based on maintaining compatibility with the proposed IEEE 802.11 standard – one object of Snell. *See* Snell at 1:47-50, 4:42-46, 5:30-32. Thus, one skilled in the art would have been discouraged from making the suggested combination. *See* Akl I, at ¶ 165. *See also id.* at ¶¶ 161-169.

**4. It Would Not Have Been Obvious to One of Ordinary Skill to Adapt Snell to a Master/Slave System and Then Combine with Yamano to Satisfy the “Addressed for an Intended Destination” Limitation in Claims 2 and 59**

Claim 2 of the '580 patent requires a transceiver that is capable of sending a transmission comprising “a group of transmission sequences” that “is structured with at least a first portion and a payload portion” and “is addressed for an intended destination of the payload portion.” Claim 59 requires a transceiver that is capable transmitting “at least one message” with first and second sequences and that “is addressed for an intended destination of the second sequence.” Akl I, at ¶ 170.

The CRU attempts to ignore the claimed destination address limitations by positing that “the term ‘destination address’ is not part of a transceiver or the device of claims 2 and 59” because “a destination address is not a structure.” AA at 15. For the reasons set forth above, the CRU's construction in which no patentable weight is given to the functional limitations of claims 2 and 59 is unreasonable. *See supra* at § VI.B. Moreover, the CRU's construction is incorrect because the claimed destination address feature limits the structure of the claimed “transceiver” to one that is configured to perform the claimed function (e.g., programmed to send a transmission comprising “a group of transmission sequences” that “is structured with at least a first portion and a payload portion” and “is addressed for an intended destination of the payload portion”). *See, e.g., Ex parte Hosoi*, No. 2010-005212, 2012 WL 889723 at \*3 (BPAI 2012)

(Exhibit I) (citing *In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997)) (quoted *supra* at § VI.B). *See also* the discussion *supra* at § VI.B (discussing the meaning of such limitations).

Therefore, the claimed destination address limitations of claims 2 and 59 must be given patentable weight.

The claimed destination address limitations are neither disclosed by nor would have been obvious in view of the cited art. Akl I, at ¶ 170. Snell is silent regarding a destination address. *Id.* at ¶ 171 (citing Snell *passim*). *See also* FOA at 9 (“Snell does not expressly teach wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion.”), 12 (“Snell does not expressly teach wherein the at least one message is addressed for an intended destination of the second sequence.”). Nonetheless, in the FOA for the first time, the CRU takes the position that “Snell inherently teaches” a destination address:

It is known in the art that a packet has a destination address in WLAN and it is so well known that Snell does not even mention it. ... Using some bits for destination address in a packet is necessary to send the packet to a right destination. The necessity outweighs any increase of bit rate needed as it is commonly done in wired and wireless communications.

FOA at 41-42.

The burden rests on the CRU to “reasonably support” any allegation of inherent disclosure:

*“In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.”* *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant’s invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow molding). The reference did not directly state that the end product balloon

was biaxially oriented. It did disclose that the balloon was “formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material.” *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl’s balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

MPEP § 2112 (emphasis added). The CRU has not met that burden.

The evidence does not establish that the packet of Snell inherently includes a destination address. *See* Akl II, at ¶¶ 7-9. *Inherency* is limited to cases where the proposed inherent element is “necessarily ... present” in the prior art. *See, e.g., PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1194–95 (Fed. Cir. 2014). Thus, a finding of inherent anticipation requires more than “probabilities or possibilities.” *Motorola Mobility, LLC v. Int’l Trade Comm’n*, 737 F.3d 1345, 1350 (Fed. Cir. 2013); *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). “The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.” *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993) (citation omitted); *In re Robertson*, 169 F.3d at 745. In this case, there is no evidence that a transceiver such as Snell’s must necessarily use “some bits for destination address,” and, in fact, that is not the case. *See* Akl II, at ¶¶ 7-9. Moreover, the CRU appears to admit that not all transceivers have such bits in its statement “it is *commonly* done in wired and wireless communications.” FOA at 42.

The specification of the ‘580 Patent makes clear that the claimed “intended destination” is a particular trib in the network. *See, e.g.,* ‘580 Patent at 4:14-16 (“The master transceiver 24 transmits a training sequence 34 that includes the address of the trib that the master seeks to communicate with. In this case, the training sequence 34 includes the address of trib 26a”), 6:10-12 (“master transceiver 64, using type B modulation, transmits data along with an address in sequence 108, which is destined for a particular type B trib 66b.”).

According to Dr. Akl:

The claimed destination address is not necessarily present in Snell because ... Snell's system could have been implemented as a broadcast system. In a broadcast system, each message from the access point is directed to all of the tribes in the WLAN and is not addressed to a particular tribe. Such a broadcast system would have been clearly feasible with Snell, since all of the tribes in Snell were able to communicate using the same modulation method. By contrast, no such broadcast would have been possible to the Type A and Type B tribes disclosed in the '580 Patent, as they failed to use any common modulation method.

Akl II, at ¶ 9. Therefore, the packet of Snell does not inherently include a destination address.

The CRU disagrees with Dr. Akl's statement that the system of Snell could be part of a broadcast system, in which messages are not addressed to a particular destination:

Second, Snell's system is not a broadcast system. Akl declaration asserted 'Snell discloses a transceiver 30 (Snell at Fig. 1, 4:42-43) designed for peer-to-peer communications...' (Sep 2017 Remarks, p. 5). Therefore based on the Akl declaration, because Snell is not implemented as a broadcast system, it is inherent that Snell teaches a destination address even if a destination address is given patentable weight in the transceivers of claims 2 and 59.

AA at 16. The CRU's position is based upon an incorrect and unexplained assumption that a peer-to-peer system cannot be a broadcast system. There is no evidence to support the CRU's assumption. In fact, a peer-to-peer system can be a broadcast system because any peer can transmit a message to all other peers in the system. As explained by Dr. Akl, "a broadcast system would have been clearly feasible with Snell, since all of the tribes in Snell were able to communicate using the same modulation method." Akl II, at ¶ 9. Accordingly, the packet of Snell does not inherently include a destination address.

The CRU relies alternatively on Yamano as disclosing a destination address. FOA at 41-42 ("Yamano is introduced only if a reviewing person does not agree that Snell inherently



teaches it.”). *See also id.* at 9 and 12 (citing Yamano at Fig. 8, 19:63-64, 20:1-7, 20:54-59).<sup>31</sup>

The CRU asserts that “[a] person of ordinary skill in the art would have been motivated and found it obvious to use Yamano’s teaching of including a destination address in the data packet in implementing Snell’s teaching of a communication system.” FOA at 10, 12.

The CRU’s position is incorrect because “[t]he cited portions indicate that Yamano’s destination address is in the preamble.” Akl I, at ¶ 172 (citing Yamano at 20:1-7 (disclosing a packet 700 having a preamble 701 that “can include information which identifies ... packet source and destination addresses”), 20:54-59 (disclosing that, “[w]hen the preamble in a burst-mode packet includes the destination address of the packet, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.”), Fig. 8). The primary goal of Snell is to *increase the data rate* at which information is communicated. *See, e.g.*, Snell at 2:24-25 (“permitting operation at higher data rates than conventional transceivers”), 2:28-29 (“permit operation at higher data rates”); 5:30-34 (“The present invention provides an extension of the PRISM 1 product from 1 Mbit/s BPSK and 2 Mbit/s QPSK to 5.5 Mbit/s BPSK and 11 Mbit/s QPSK” and “allows the same RF circuits to be used for higher data rates.”), 7:10-14 (“increase the data rate”). However, the preamble of Snell is transmitted at the *lowest (i.e., 1 Mbit/s) data rate.* *Snell* at 6:64-66 (“The PLCP preamble and PLCP header are always at 1 Mbit/s, Diff encoded, scrambled and spread with an 11 chip barker. SYNC and SFD

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<sup>31</sup> At the cited portions, Yamano discloses that its packet is in the preamble, *i.e.*, a packet 700 having a preamble 701 that “can include information which identifies ... packet source and destination addresses.” Yamano at 20:1-7. *See also id.* at 20:54-59 (disclosing that, “[w]hen the preamble in a burst-mode packet includes the destination address of the packet, the receiver circuits can monitor the destination address of the packet, and in response, filter packets which do not need to be demodulated, thereby reducing the processing requirements of the receiver circuits.”), Fig. 8.

are internally generated.”). *See also id.* at FIG. 3, 6:51-59, 7:10-14. Therefore, adding a destination address to the preamble of Snell would increase the amount of information transmitted at the lowest data rate, frustrating Snell’s goal of *increasing the data rate*. Akl I, at ¶ 174. For at least this reason, it would not have been obvious to one of ordinary skill in the relevant art to combine Yamano’s teaching of a destination address in a preamble with Snell. *See* Akl I, at ¶ 175.

In addition, given that the proposed IEEE 802.11 standard was not publicly available, one of ordinary skill would have been concerned that Snell’s system would not remain compliant with the proposed IEEE standard if Snell were modified to include address information in the header. Akl I, at ¶ 176. Again, that concern would have discouraged the skilled artisan from making the suggested combination, as one of the intended purposes of Snell invention was to maintain compatibility with the proposed IEEE 802.11 standard. Akl I, at ¶ 176. Without access to the teachings of the proposed IEEE 802.11 standard, one of ordinary skill in the art would not have any reasonable expectation that Snell’s transceiver would still act in accordance with the proposed IEEE 802.11 standard if it were modified to include address information in the header. Akl I, at ¶ 177. For this additional reason, one of ordinary skill in the relevant art would have been discouraged from modifying Snell’s transceiver to include Yamano’s address information in the header (as suggested by the CRU) without a reasonable expectation that it would function as intended, *i.e.*, in accordance with the proposed IEEE 802.11 standard. *See* Akl I, at ¶ 178.

For at least the reasons given above, one of ordinary skill in the relevant art would not have been motivated to combine the cited references in the manner proposed by the CRU and, in fact, would have been discouraged from doing so. Thus, all of the CRU’s rejections under 35 U.S.C. § 103 should be reversed.

## VII. CONCLUSION

The length of this brief is due to the extensive history of the '580 Patent and its child (the '228 Patent) in the Office and the courts and due to the many legal and technical errors made by the CRU during the prosecution of the two related reexaminations. However, in spite of the brief's length, the Board can decide the case efficiently by determining that any one of the following four issues must be decided in Rembrandt's favor:

1) There is no substantial new question of patentability, as the PTAB already considered art more relevant than that relied on by the CRU, *i.e.*, APA and Boer, when it decided in the '518 IPR Institution Decision that claims 2 and 59 of the '580 Patent were unlikely to be proven unpatentable. Requester Samsung merely repeated arguments it previously made hoping for a different result.

2) The master/slave limitations in claims 2 and 59 of the '580 Patent must be given weight and are not disclosed in any of the art relied on by the CRU, particularly since Snell's attempt to incorporate Harris AN9614 by reference failed, but, even if incorporation had been successful, Harris AN9614's "polled scheme" does not disclose and would not have suggested the master/slave limitations in claims 2 and 59.

3) The third sequence is not disclosed and would not have been suggested by any of the art relied on by the CRU (as the PTAB previously concluded with respect to APA and Boer) because the problem identified and solved by the '580 Patent in a master/slave setting was not a problem faced by any of the art relied on by the CRU.

4) The at least two modulation methods "of a different type" must be construed in light of the unequivocal prosecution history to mean different *families* of modulation methods, as dictated by the Federal Circuit's determination in *Rembrandt Wireless Techs. v. Samsung Elecs. Co.*, 853 F.3d 1370, 1377 (Fed. Cir. 2017) (issued after the PTAB's Final Written Decision in the

'518 IPR). The CRU has not met its burden to establish that this claim limitation is met by the cited art, and relies instead on its erroneous construction to ignore the “of a different type” claim language to support its rejections.

For these and other reasons identified above, the CRU’s SNQ finding should be vacated and all its rejections should be reversed.

Respectfully submitted,

Date: March 19, 2018

By: /Michael V. Battaglia/

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## VIII. CLAIMS APPENDIX

Dependent claims 2 and 59 of the '580 Patent are involved in the appeal. For completeness and ease of reference, Rembrandt additionally provides independent claims 1 and 58 below.<sup>32</sup>

1. A communication device capable of communicating according to a master/slave relationship in which a slave communication from a slave to a master occurs in response to a master communication from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, for sending at least transmissions modulated using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, wherein each transmission comprises a group of transmission sequences, wherein each group of transmission sequences is structured with at least a first portion and a payload portion wherein first information in the first portion indicates at least which of the first modulation method and the second modulation method is used for modulating second information in the payload portion, wherein at least one group of transmission sequences is addressed for an intended destination of the payload portion, and wherein for the at least one group of transmission sequences:

the first information for said at least one group of transmission sequences comprises a first sequence, in the first portion and modulated according to the first modulation method,

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<sup>32</sup> Claims 1 and 58 were canceled as a result of the IPR2014-00518 review proceeding. *See Inter Partes Review Certificate* issued December 13, 2016.

wherein the first sequence indicates an impending change from the first modulation method to the second modulation method, and

the second information for said at least one group of transmission sequences comprises a second sequence that is modulated according to the second modulation method, wherein the second sequence is transmitted after the first sequence.

2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

58. A communication device capable of communicating according to a master/slave relationship in which a slave message from a slave to a master occurs in response to a master message from the master to the slave, the device comprising:

a transceiver, in the role of the master according to the master/slave relationship, capable of transmitting using at least two types of modulation methods, wherein the at least two types of modulation methods comprise a first modulation method and a second modulation method, wherein the second modulation method is of a different type than the first modulation method, and wherein the transceiver is configured to transmit messages with:

a first sequence, in the first modulation method, that indicates at least which of the first modulation method and the second modulation method is used for modulating a second sequence, wherein, in at least one message, the first sequence indicates an impending change

from the first modulation method to the second modulation method, and wherein the at least one message is addressed for an intended destination of the second sequence, and

the second sequence, modulated in accordance with the modulation method indicated by the first sequence and, in the at least one message, modulated using the second modulation method, wherein the second sequence is transmitted after the first sequence.

59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

## CERTIFICATE OF SERVICE

It is hereby certified that on this 19<sup>th</sup> day of March, 2018, the foregoing **APPEAL BRIEF UNDER 37 C.F.R. § 41.37** (including the Exhibits thereto) were served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

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cc: Nancy J. Linck, Ph.D.  
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## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	32094006
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Judith Pennington
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1	Appeal Brief-Owner	AppealBrief.pdf	3099217  <small>6888b19667e42397c74d3db69b66b01f5c81ef28</small>	no	136

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ART UNIT PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

Date: June 15, 2018

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**EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. : 90013808

PATENT NO. : 8023580

ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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In re Gordon F. Bremer :  
*Ex Parte* Reexamination Proceeding : **DECISION**  
Control No. 90/013,808 : **DISMISSING**  
Filed: September 12, 2016 : **PETITION**  
For: U.S. Patent No.: 8,023,580 :

This is a decision on patent owner’s September 18, 2017 petition entitled “Petition Requesting Reconsideration of OPLA’s November 28, 2016 Dismissal of Rembrandt’s September 30, 2016 Petition under Rule 181/182 Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(D) [*sic*] and a Final Petition Decision in Accordance with PTAB Practice”, which is taken as a combined petition (patent owner’s September 18, 2017 combined petition) including:

- a petition under 37 CFR 1.183 to waive the provisions of 37 CFR 1.181(f); and
- a request for reconsideration of the November 28, 2016 petition decision, including a request to vacate the order and all subsequently-mailed Office actions, and issue an order denying reexamination (patent owner’s September 18, 2017 request for reconsideration).

Patent owner’s September 18, 2017 combined petition and the record as a whole, are before the Office of Patent Legal Administration for consideration.

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## SUMMARY

Patent owner's September 18, 2017 petition under 37 CFR 1.183 requesting waiver of the provisions of 37 CFR 1.181(f) is **dismissed**.

Patent owner's September 18, 2017 request for reconsideration of the Office's November 28, 2016 decision, including patent owner's request that the Office vacate the order and "terminate" reexamination, i.e., vacate all subsequently-mailed Office actions and issue an order denying reexamination on the basis set forth in 35 U.S.C. 325(d) that the request is limited to the same or substantially the same prior art or arguments previously presented to the Office, is **dismissed as untimely**.

As an alternate basis for dismissal, patent owner's September 18, 2017 request for reconsideration **would have been dismissed even if timely filed** within the two-month period set forth in 37 CFR 1.181(f), because patent owner's original petition was filed after the order. The discretionary determination by the Office under 35 U.S.C. 325(d) whether to reject the request is not petitionable once the order granting reexamination has issued.

As a second alternate basis for dismissal, patent owner's September 18, 2017 request for reconsideration **would have been dismissed, even if timely filed**, in view of the arguments presented in the request for reexamination.

The September 27, 2016 order granting reexamination, and all subsequently-mailed Office actions, **will not be vacated**. Prosecution in the present reexamination proceeding **will continue**.

## REVIEW OF THE RELEVANT FACTS

- On April 6, 2004, U.S. Patent No. 8,023,580 (the '580 patent) issued to Gordon F. Bremer.
- On March 20, 2014, the third party requester, Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC filed a petition for *inter partes* review of claims 1-2, 4-5, 10, 13, 19-22, 49, 52-54, 57-59, 61-62, 66, 70, and 76-79 of the '580 patent, based on the Draft Standard reference<sup>1</sup> alone or in view of U.S. Patent No. 5,706,428 (Boer). The *inter partes* review was assigned case number IPR2014-00514 (the '514 IPR).
- Also on March 20, 2014, the same third party requester filed a second petition for *inter partes* review of claims 1-2, 4-5, 10, 13, 19-22, 49, 52-54, 57-59, 61-62, 66, 70, and 76-79 of the '580 patent, based on the admitted prior art (APA) in view of Boer. The *inter partes* review was assigned case number IPR2014-00518 (the '518 IPR).

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<sup>1</sup> Draft Standard for Wireless LAN, Medium Access Control (MAC) and Physical Layer (PHY) Specification P802.11D4.0, May 20, 1996 (Draft Standard).



- On September 9, 2014, the Patent Trial and Appeal Board (PTAB) issued a decision in the '514 IPR denying institution of *inter partes* review of all of the challenged claims of the '580 patent, i.e., claims 1-2, 4-5, 10, 13, 19-22, 49, 52-54, 57-59, 61-62, 66, 70, and 76-79. The PTAB determined that the IPR petitioner had not met its burden in establishing that the Draft Standard reference is a printed publication; and for this reason, the IPR petitioner had not shown a reasonable likelihood of prevailing on the grounds asserted (no RLP).
- On September 23, 2014, the PTAB issued a decision in the '518 IPR granting institution with respect to claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79 of the '580 patent. The PTAB also denied institution with respect to claims 2, 19, 49, 52, 53, and 59 of the '580 patent (no RLP).
- On October 21, 2014, the same third party requester filed a third petition for *inter partes* review of claims 2, 19, 49, 52, 53, and 59 of the '580 patent, based on the APA in view of Boer. The *inter partes* review was assigned case number IPR2015-00114 (the '114 IPR).
- On December 4, 2014, the patent owner Rembrandt Wireless Technologies, LP (Rembrandt), filed a disclaimer under 35 U.S.C. 1.321(a) in the file of the '580 patent,<sup>2</sup> disclaiming claims 32, 34, 40, 43, and 44.
- On December 15, 2014, the patent owner filed a second disclaimer under 35 U.S.C. 1.321(a) in the file of the '580 patent, disclaiming claims 24, 26-28, 31, 33, 35-37, 39, 42, 45, 46, and 48.
- On January 28, 2015, the PTAB issued a decision in the '114 IPR, in which the PTAB exercised its discretion under 35 U.S.C. 325(d) to deny institution of *inter partes* review of all of the challenged claims, i.e., claims 2, 19, 49, 52, 53, and 59 of the '580 patent, stating that “the sole difference” between the grounds presented in the '518 IPR and the '114 IPR with respect to the challenged claims is the presence of “further reasoning in support of the same combination of prior art”.
- On September 17, 2015, the PTAB issued a Final Written Decision in the '518 IPR, in which the PTAB held that all of the claims of the '580 patent under review in the '518 IPR, i.e., claims 1, 4, 5, 10, 13, 20-22, 54, 57, 58, 61, 62, 66, 70, and 76-79, were unpatentable. No appeal was filed.
- On September 12, 2016, the third party requester Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. (Samsung)<sup>3</sup> filed a request for *ex parte* reexamination of claims 2 and 59 of the '580 patent. The reexamination proceeding was assigned

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<sup>2</sup> Application serial number 12/543,910.

<sup>3</sup> Samsung Telecommunications America, LLC and Samsung Austin Semiconductor, LLC were listed as co-petitioners in the '514, '518, and '114 IPRs, but were not listed as co-requesters in the present reexamination proceeding.

control number 90/013,808 (the present reexamination proceeding) and was accorded a filing date of September 12, 2016.<sup>4</sup>

- On September 27, 2016, reexamination of claims 2 and 59 of the '580 patent was ordered in the present reexamination proceeding.
- On September 30, 2016, the patent owner filed a petition in the present reexamination proceeding entitled "Petition Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(d) Pursuant to 37 C.F.R. § 181(a)(2) and/or § 1.182", which was taken as a combined petition (patent owner's September 30, 2016 combined petition), including: 1) a petition under 37 CFR 1.183 to waive the rules and enter patent owner's petition under 37 CFR 1.182; and 2) a petition under 37 CFR 1.182 to vacate the order granting reexamination and issue an order denying reexamination.
- On October 13, 2016, the third party requester Samsung filed, in the present reexamination proceeding, an opposition to patent owner's September 30, 2016 petition, entitled "Third Party Requester's Opposition to Patent Owner's Petition to Reject Reexamination Request" (requester's October 13, 2016 opposition).
- Also on October 13, 2016, the third party requester Samsung filed, in the present reexamination proceeding, a petition entitled "Third Party Requester's Petition to Respond to Patent Owner's Petition to Reject Reexamination Request" (requester's October 13, 2016 petition).
- On November 28, 2016, the Office mailed a decision in the present reexamination proceeding dismissing patent owner's September 30, 2016 petition under 37 CFR 1.182 to vacate the order granting reexamination and issue an order denying reexamination (the November 28, 2016 petition decision). The November 28, 2016 petition decision also granted patent owner's September 30, 2016 petition under 37 CFR 1.183, and requester's

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<sup>4</sup> Three other previously-filed petitions for *inter partes* review of the '580 patent, which did not involve the claims under reexamination, i.e., claims 2 and 59, were simultaneously filed with the '514, '518, and '114 IPRs. Specifically:

- IPR2014-00515 (the '515 IPR) (relying on the Draft Standard reference) and IPR2014-00519 (the '519 IPR) (relying on the APA and Boer), both of which requested review of claims 23, 25, 29-30, 32, 34, 38, 40-41, 43-44, and 47, were filed on March 20, 2014, the same date that the '514 and '518 IPRs were filed; and
- IPR2015-00118 (the '118 IPR) (relying on the APA and Boer), requesting review of claims 23, 25, 29, 30, and 41, was filed on October 21, 2014, the same date that the '114 IPR was filed.

Petitions in trial proceedings at the PTAB are subject to a word count or page limit. See 37 CFR 42.24. Where, as here, the petition involves a substantial number of claims, it is not unexpected that a petitioner may choose to split a substantial number of claims into two or more groups, and file multiple petitions *simultaneously* in order to separately challenge each group of claims. It is also not unexpected that a petitioner may choose to challenge these claims over more than one combination of references, and file multiple petitions *simultaneously* in order to separately challenge each set of claims in view of each separate set of references. *Simultaneous* filings of IPRs for these reasons is not necessarily evidence of harassment.

October 13, 2016 petition, to the extent that patent owner's September 30, 2016 combined petition, and requester's October 13, 2016 petition and opposition, have been entered and considered.

- On December 13, 2016, the PTAB issued an Inter Partes Review Certificate reflecting the results of the '518 and '519 IPRs (the December 13, 2016 Inter Partes Review Certificate). The December 13, 2016 Inter Partes Review Certificate cancels claims 1, 4, 5, 10, 13, 20-22, 38, 47, 54, 57, 58, 61, 62, 66, 70 and 76-79 of the '580 patent, and notes that claims 32, 34, 40, 43 and 44 are disclaimed.
- On March 31, 2017, a non-final Office action rejecting claims 2 and 59 of the '580 patent was mailed in the present reexamination proceeding.
- On July 18, 2017, a final rejection rejecting claims 2 and 59 of the '580 patent was mailed in the present reexamination proceeding.
- On September 18, 2017, the patent owner filed a petition in the present reexamination proceeding entitled "Petition Requesting Reconsideration of OPLA's November 28, 2016 Dismissal of Rembrandt's September 30, 2016 Petition under Rule 181/182 Requesting the Director to Exercise Her Discretionary Authority under 35 U.S.C. § 325(D) [*sic*] and a Final Petition Decision in Accordance with PTAB Practice" (patent owner's September 18, 2017 combined petition).
- On October 16, 2017, an advisory action was mailed in the present reexamination proceeding.
- On December 18, 2017, the patent owner filed a notice of appeal to the PTAB in the present reexamination proceeding.
- On March 19, 2018, the patent owner filed an appeal brief in the present reexamination proceeding.

### STATUS OF CLAIMS

Of the original 79 claims of the '580 patent, claims 1, 4, 5, 10, 13, 20-22, 38, 47, 54, 57, 58, 61, 62, 66, 70 and 76-79 have been cancelled by the December 13, 2016 Inter Partes Review Certificate. Claims 24, 26-28, 31-37, 39, 40, 42-46, and 48 have been disclaimed by the patent owner.

Dependent claims 2 and 59 are under reexamination and are finally rejected in the present proceeding. Claim 2 depends from cancelled independent claim 1. Claim 59 depends from cancelled independent claim 58.

## DECISION

The patent owner requests the Office to: i) reconsider the Office's petition decision mailed on November 28, 2016; ii) vacate the September 27, 2016 order for reexamination; and iii) "terminate" reexamination, i.e., vacate all subsequently-mailed Office actions and issue an order denying reexamination, on the basis set forth in 35 U.S.C. 325(d) that the request is limited to the same or substantially the same prior art or arguments previously presented to the Office. The present petition is taken as a combined petition including:

- 1) a petition under 37 CFR 1.183 requesting waiver of 37 CFR 1.181(f), and entry and consideration of patent owner's September 18, 2017 combined petition (patent owner's September 18, 2017 petition under 37 CFR 1.183 to waive the provisions of 37 CFR 1.181(f)); and
- 2) a request for reconsideration of the Office's petition decision mailed on November 28, 2016, including a request to vacate the September 27, 2016 order for reexamination and all subsequently-mailed Office actions, and issue an order denying reexamination on the basis set forth in 35 U.S.C. 325(d) that the request is limited to the same or substantially the same prior art or arguments previously presented to the Office (patent owner's September 18, 2017 request for reconsideration).

### **I. Patent Owner's September 18, 2017 Petition under 37 CFR 1.183 to Waive the Provisions of 37 CFR 1.181(f) is Dismissed**

Patent owner's September 18, 2017 petition under 37 CFR 1.183 requests the Office to waive the provisions of 37 CFR 1.181(f) and enter and consider patent owner's September 18, 2017 combined petition. 37 CFR 1.181(f) provides, in pertinent part:

Any petition under this part not filed within two months of the mailing date of the action or notice from which relief is requested may be dismissed as untimely, except as otherwise provided. This two-month period is not extendable.

Patent owner's September 18, 2017 request for reconsideration, however, was filed nearly ten months after the November 28, 2016 decision, well after the two-month period set forth in 37 CFR 1.181(f) had elapsed. Furthermore, prosecution in the present proceeding progressed during this nearly ten-month period, during which a non-final Office action and a final rejection have issued.

The patent owner argues that its request for reconsideration is timely because, in the final Office action mailed on July 18, 2017 in the present proceeding, "the CRU conceded substantial similarity between at least some of the art and arguments in the present reexamination and those previously presented to the Office". The patent owner asserts that "the CRU's concession" is a "material change in fact [that] only came to light in the [final Office action] of July 18, 2017, and therefore, the present request to revisit the Petition Dismissal is timely." To support its

argument, the patent owner points to the following statements made by the examiner in the July 18, 2017 final Office action:<sup>5</sup>

Further, claims 1 and 58 recite using multiple modulation methods and it is determined by the PTAB that APA and Boer discloses it. Snell and Harris AN9614 similarly disclose all the limitation [*sic*] of claims 1 and 58.

As an initial matter, however, independent claims 1 and 58 are not under reexamination. These claims, which were under review in the '518 IPR, were determined by the PTAB to be unpatentable over the APA in view of Boer, and were cancelled by the December 13, 2016 Inter Partes Review Certificate, which issued after no appeal was filed.

Claims 2 and 59, which depend from cancelled independent claims 1 and 58, respectively, are under reexamination in the present proceeding.

A dependent claim necessarily includes all of the limitations of the claim from which it depends. To be proper, any rejection of the dependent claim must necessarily be based on one or more references that anticipate or render obvious all of the claim limitations, including the limitations of the claim from which it depends. In the present case, dependent claims 2 and 59 include all of the limitations of claims 1 and 58, respectively. To be proper, any rejection of claims 2 and 59 must necessarily be based on references which anticipate or render obvious all of the limitations of these claims, including the limitations of claims 1 and 58.

Therefore, contrary to patent owner's assertions, it is not a "material change in fact" that the examiner determined that the references applied against claims 2 and 59, i.e., Snell, which incorporates by reference the Harris AN9614 reference,<sup>6</sup> disclose not only the limitations of claims 2 and 59, but also all of the limitations of the claims from which claims 2 and 59 depend, i.e., claims 1 and 58. In fact, the rejection would not have been proper if the examiner had not done so.

Claims 1 and 58 were under review by the PTAB in the '518 IPR. The PTAB determined that all of the limitations of claims 1 and 58 were disclosed by the APA in view of Boer. In fact, the claims were cancelled by trial certificate without appeal. It is not a "material change in fact" that Snell, which incorporates by reference Harris AN9614, similarly disclose the limitations of claims 1 and 58, *since these references are applied against the same limitations*. Any proper rejection of dependent claims 2 and 59 must be based on references which disclose not only the limitations of claims 2 and 59, but also all of the limitations of claims 1 and 58, from which they depend.

For these reasons, patent owner's September 18, 2017 petition under 37 CFR 1.183 to waive the provisions of 37 CFR 1.181(f) is **dismissed**.

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<sup>5</sup> See the final Office action mailed on July 18, 2017, page 40. See also page 32.

<sup>6</sup> See column 5, lines 5-7 of U.S. Patent No. 5,982,807 to James Leroy Snell (Snell).

## II. Patent Owner's September 18, 2017 Request for Reconsideration is Dismissed as Untimely

Patent owner's September 18, 2017 request for reconsideration was filed nearly ten months after the November 28, 2016 decision, well after the two-month period set forth in 37 CFR 1.181(f) had elapsed, as set forth above.

Because the provisions of 37 CFR 1.181(f) have not been waived, patent owner's September 18, 2017 request for reconsideration is **dismissed as untimely**.

The September 27, 2016 order granting reexamination, and all subsequently-mailed Office actions, **will not be vacated**. Prosecution in the present reexamination proceeding **will continue**.

## III. As an Alternate Basis for Dismissal, Patent Owner's September 18, 2017 Request for Reconsideration Would Have Been Dismissed Even If Timely Filed within the Two-Month Period Set Forth in 37 CFR 1.181(f)

Even if patent owner's September 18, 2017 request for reconsideration were timely filed with the two-month time period set forth in 37 CFR 1.181(f), patent owner's September 18, 2017 request for reconsideration would have been dismissed.

In its September 18, 2017 request for reconsideration, the patent owner requests the Office to: i) reconsider the November 28, 2016 petition decision; ii) vacate the order granting reexamination mailed on September 27, 2016; and iii) "terminate" reexamination, i.e., vacate all subsequently-mailed Office actions and issue an order denying reexamination, on the basis set forth in 35 U.S.C. 325(d) that the present request is limited to the same or substantially the same prior art or arguments previously presented to the Office.

The November 28, 2016 petition decision dismissed patent owner's original petition submitted on September 30, 2016 to "reject" the request, i.e., issue an order denying reexamination on the basis set forth in 35 U.S.C. 325(d) that the present request is limited to the same or substantially the same prior art or arguments previously presented to the Office.

Patent owner's original petition submitted on September 30, 2016, however, was not filed until *after* the order granting reexamination was mailed on September 27, 2016. The Office stated, in its November 28, 2016 petition decision, that a petition requesting the Office to exercise its discretion and "reject" the request pursuant to 35 U.S.C. 325(d) would be considered to be timely if the petition were filed after the order granting reexamination. This statement, however, was in error,<sup>7</sup> and has not been followed.<sup>8</sup> The patent owner was not harmed because patent owner's original September 30, 2016 petition was, in any event, entered and considered.

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<sup>7</sup>A similar erroneous statement was made in the petition decision mailed on November 28, 2016 in related reexamination proceeding control number 90/013,809 (the '809 reexamination proceeding). The patent owner in the '809 proceeding was not harmed because patent owner's original petition in the '809 proceeding was, in any event, entered and considered.

35 U.S.C. 325(d) provides the Office with the discretion to “reject” a request for reexamination *prior to* the order. It does not, however, provide the Office with the discretion to terminate an ongoing reexamination proceeding on the basis set forth in 35 U.S.C. 325(d) if no petition requesting such relief is filed until *after* reexamination has been ordered.

35 U.S.C. 325(d) provides, in pertinent part (emphasis added):

In determining whether to . . . **order a proceeding under . . . chapter 30**, . . . the Director **may** take into account whether, and **reject the . . . request** because, the same or substantially the same prior art or arguments previously were presented to the Office.

As an initial matter, the provisions of 35 U.S.C. 325(d) are *discretionary*, not mandatory. The statute states that “the Director **may** take into account whether, and reject the . . . request because . . .” The statute does not require the Director to make a determination whether to reject a request for *ex parte* reexamination pursuant to 35 U.S.C. 325(d).

The provisions of 35 U.S.C. 325(d) clearly refer to the determination whether to order a reexamination proceeding or whether to reject the request, which occurs *prior to* the order. In addition, 35 U.S.C. 305 *requires* the Office to conduct reexamination *once the order has been issued* pursuant to 35 U.S.C. 304. See 35 U.S.C. 305, which provides, in pertinent part:

After the times for filing the statement and reply provided for by section 304 have expired, **reexamination will be conducted** . . .

Therefore, once an order granting reexamination has issued, the Office is required to conduct reexamination pursuant to 35 U.S.C. 305.

In summary, pursuant to provisions of 35 U.S.C. 304, 305, and 325(d), the Office does not have the discretion to terminate an ongoing reexamination on the basis set forth in 35 U.S.C. 325(d), if no petition requesting such relief is filed until *after* reexamination has been ordered. For these reasons, the *discretionary* determination by the Office under 35 U.S.C. 325(d) whether to reject the request is not petitionable once the order granting reexamination has issued.<sup>9</sup>

For this reason, patent owner’s original September 30, 2016 petition requesting the Office to reject the request pursuant to 35 U.S.C. 325(d), which was filed *after* the September 27, 2016 order granting reexamination, was properly dismissed. The November 28, 2016 petition decision, however, did not provide the reason for the dismissal set forth above.

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<sup>8</sup>See, e.g., the petition decisions in *ex parte* reexamination proceeding control nos. 90/013,811; 90/013,812; and 90/013,813, which were mailed on March 27, 2017.

<sup>9</sup> In contrast, a petition requesting the Office to vacate an order granting reexamination on the basis that the request does not raise a substantial new question of patentability may be entertained by the Office after the order has issued. The basis for such a petition is that, because no substantial new question of patentability is raised by the request, the Office was not authorized under 35 U.S.C. 304 to order reexamination, i.e., the issuance of the order was an *ultra vires* action on the part of the Office. See MPEP 2246, subsection II.

Accordingly, as an alternate basis for dismissal, patent owner's September 18, 2017 request for reconsideration would have been dismissed even if timely filed within the two-month period set forth in 37 CFR 1.181(f), because patent owner's original petition was filed after the order. The discretionary determination by the Office under 35 U.S.C. 325(d) whether to reject the request is not petitionable once the order granting reexamination has issued.

**IV. As a Second Alternate Basis for Dismissal, Patent Owner's September 18, 2017 Request for Reconsideration Would Have Been Dismissed, Even If Timely Filed, in View of the Arguments Presented in the Request for Reexamination**

The patent owner agrees that the prior art relied upon in the present request, including Snell,<sup>10</sup> Yamano, and Kamerman, were not previously presented to the Office. The patent owner asserts, however, that the arguments presented in the request for reexamination are substantially the same as those previously presented to the Office.

The patent owner provides, in the present petition, a detailed discussion explaining why the patent owner believes that the arguments presented in the request for reexamination are substantially the same arguments that were presented in the '518 and '114 IPR petitions.<sup>11</sup> The requester, however, presented new arguments in its request for reexamination, which are discussed in detail below. The record does not sufficiently show that these specific arguments were previously presented to the Office.

**A. Claims 2 and 59 Were Requested to be Reexamined**

Dependent claims 2 and 59 of the '580 patent, which are the only claims requested to be reexamined in the present proceeding, have similar recitations. Claim 2 is representative:<sup>12</sup>

2. The device of claim 1, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.

The limitations of claims 2 and 59 include three limitations: i) the third sequence is transmitted after the second sequence; ii) the third sequence is transmitted in the first modulation method; and iii) the third sequence indicates that communication from the master to the slave has reverted to the first modulation method.

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<sup>10</sup> See U.S. Patent 5,982,807 (Snell), which incorporates by reference the Harris 4064.4 and Harris AN9614 references.

<sup>11</sup> See pages 20-34 of the present petition.

<sup>12</sup> Claim 59 of the '580 patent recites:

59. The device of claim 58, wherein the transceiver is configured to transmit a third sequence after the second sequence, wherein the third sequence is transmitted in the first modulation method and indicates that communication from the master to the slave has reverted to the first modulation method.



## B. The Determinations by the PTAB in Previous IPRs with Respect to Claims 2 and 59

In the '518 IPR, the PTAB determined that claims with limitations corresponding in scope to the first two limitations of claims 2 and 59 were unpatentable. Specifically, the PTAB determined that the limitations of dependent claims 21 and 78, the scope of which are substantially the same as, if not identical to, the first two limitations of claims 2 and 59, did not render the claims patentable. Claims 21 and 78 have similar recitations. Claim 21 is representative:<sup>13</sup>

21. The device of claim 1, [*sic*] the transceiver is configured transmit a third sequence, according to the first modulation method, at a time after the second sequence is transmitted.

The PTAB also determined in the '518 IPR that independent claims 1 and 58, from which claims 2 and 59 depend, respectively (and also from which claims 21 and 78 depend, respectively) were unpatentable. In fact, the only limitation that is recited in claims 2 and 59 that was not in the claims held unpatentable by the PTAB in the '518 IPR is the third limitation, where the third sequence "indicates that communication from the master to the slave has reverted to the first modulation method."

With respect to claims 2 and 59, the PTAB held that the petitioner (the requester in the present proceeding) had not sufficiently explained how the Boer reference taught the third limitation of claims 2 and 59, i.e., that the third sequence "indicates that communication from the master to the slave has reverted to the first modulation method." Specifically, the PTAB held that the petitioner "failed to show how the SIGNAL and SERVICE fields [in the header of Boer] might be deemed, as alleged, to 'indicate' that communication from the master to the slave has reverted to the first modulation method, as recited in claim 2."<sup>14</sup>

In the '114 IPR,<sup>15</sup> the PTAB denied institution, stating that "the sole difference" between the grounds presented in the '518 IPR and the '114 IPR with respect to the challenged claims, including claims 2 and 59, is the presence of "further reasoning in support of the same combination of prior art".<sup>16</sup>

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<sup>13</sup> Claim 78 of the '580 patent recites:

78. The device of claim 58, [*sic*] the transceiver is configured to transmit a third sequence, according to the first modulation method, at a time after the second sequence is transmitted.

<sup>14</sup> See *Samsung Electronics Co. Ltd., et al. v. Rembrandt Wireless Technologies LP*, IPR2014-00518 (the '518 IPR), Paper No. 16, pages 14-15.

<sup>15</sup> See *Samsung Electronics Co. Ltd., et al. v. Rembrandt Wireless Technologies LP*, IPR2015-00114 (the '114 IPR), Paper No. 14, pages 6-7.

<sup>16</sup> Claims 2 and 59 were also among the claims challenged in the '514 IPR, which was filed on March 20, 2014, the same day that the '518 IPR was filed. The PTAB denied institution with respect to all challenged claims. The PTAB determined that the IPR petitioner had not met its burden in establishing that the Draft Standard reference is a printed publication; and for this reason, the IPR petitioner had not shown a reasonable likelihood of prevailing on the grounds asserted (no RLP). The remaining prior art was not analyzed on the merits with respect to any of the challenged claims, including claims 2 and 59. See *Samsung Electronics Co. Ltd., et al. v. Rembrandt Wireless Technologies LP*, IPR2014-00514 (the '514 IPR), Paper No. 18, pages 4-10.

The PTAB in the '518 IPR denied institution with respect to various claims including claims 2 and 59, but granted institution with respect to other challenged claims. However, in *SAS Institute v. Iancu*, 138 S.Ct. 1348 (decided April, 24, 2018), the Supreme Court later held that, unlike the *ex parte* reexamination statute, 35 U.S.C. 314(a) does not authorize the Director to determine, on a claim-by-claim basis, whether to institute *inter partes* review (see slip op., pages 7-8):

Rather than contemplate claim-by-claim institution, then, the language [if 35 U.S.C. 314(a)] anticipates a regime where a reasonable prospect of success on a single claim justifies all . . . [The *ex parte* reexamination] statute allows the Director to institute proceedings on a claim-by-claim, and ground-by-ground basis.

In response to *SAS*, the PTAB issued a memorandum on April 26, 2018, which provides guidance on how the PTAB may address any pending *inter partes* review in which a trial was not instituted on all of the challenges raised in the petition.<sup>17</sup> The '518 and '114 IPRs, however, have been concluded, and are not pending.

Pursuant to *SAS* and the April 26, 2018 memorandum by the PTAB, however, the PTAB would likely have instituted *inter partes* review of claims 2 and 59, had the '518 or the '114 IPR been pending at the time the Supreme Court's opinion in *SAS* had been rendered. In addition, claims 2 and 59 are the only claims requested to be reexamined in the present proceeding. These facts weigh in favor of ordering reexamination in the present reexamination proceeding.

### C. The Prior Art and Arguments Presented in the Request for Reexamination

In the present request for reexamination, the requester asserts that the Snell reference,<sup>18</sup> in combination with other references such as Yamano and Kamerman, render obvious the limitations of claims 2 and 59. The patent owner, in its present petition, does not dispute that these references were not previously presented to the Office, i.e., that these references were not previously cited or considered in any rejection by the examiner during prosecution of the application which became the '580 patent, or by the PTAB in a trial proceeding involving the '580 patent.

The requester explains in the present request that the third sequence of Snell (e.g. the SIGNAL field in the header of Snell), is always transmitted using DBPSK, the first modulation method<sup>19</sup> (as also taught by Boer, as discussed in the '518 IPR). The requester further explains that: i) the second modulation method of Snell, QPSK, is of a different type than the first modulation method, BPSK; and ii) the SIGNAL field in the header can have four values, each of which corresponds to a modulation method for the data to be transmitted to the receiving transmitter (such as, e.g., the MPDU data)<sup>20</sup> (both of which are also taught by Boer as discussed in the '518 and '114 IPR petitions).

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<sup>17</sup> See "Guidance on the Impact of SAS on AIA Trial Proceedings", released on April 26, 2018 at [www.uspto.gov/patents-application-process/patenttrialandappealboard](http://www.uspto.gov/patents-application-process/patenttrialandappealboard).

<sup>18</sup> See U.S. Patent 5,982,807 (Snell), which incorporates by reference the Harris 4064.4 and Harris AN9614 references.

<sup>19</sup> See, e.g., column 6, lines 35-36 of Snell: "The header may always be BPSK".

<sup>20</sup> See, e.g., column 6 as well as Figure 3 of Snell.

In addition, however, the requester more clearly sets forth in the present request for reexamination<sup>21</sup> that the Snell reference teaches the third limitation of claims 2 and 59. The requester explains how the third sequence of Snell (e.g., the SIGNAL field in the header) “indicates” the modulation type (e.g., BPSK) used for modulating the data to be transmitted to the receiving transmitter (the MPDU data), i.e., by using a value, such as “OAh”. Specifically, the requester points to the table appearing in lines 55-59 of column 6 of Snell. This table, which does not appear in the Boer reference,<sup>22</sup> more clearly sets forth how the SIGNAL (third sequence) “indicates” that communication has reverted to the first modulation method as recited in claim 2. The requester explains that the SIGNAL field of Snell “indicates”, by using one of the four values listed in the table, which modulation method, e.g., BPSK or QPSK, is used for modulating the MPDU data, and that one of the four values transmitted by the SIGNAL field in the header is “OAh”, which “indicates” the BPSK modulation type at 1 Mbit/s.<sup>23</sup>

The requester points out, for example, that Snell’s transceiver transmits a first sequence (e.g., the preamble and the header) in the first modulation method, e.g., BPSK, *and* “indicates” the modulation type used, e.g., QPSK, for modulating the second sequence of Snell (e.g., the MPDU data) by using the value “14h”. The requester further states that Snell’s transceiver *then* transmits a third sequence, (e.g., the preamble and the header), in the first modulation method, BPSK, *and* “indicates” the modulation type used by using the value “OAh”.<sup>24</sup>

The requester explains that for this reason, Snell not only teaches transmitting a third sequence after the second sequence, where the third sequence is transmitted in the first modulation method, but also teaches that the third sequence “indicates that communication from the master to the slave has reverted to the first modulation method”, as recited in claims 2 and 59.

These specific arguments by the requester, which more clearly set forth how the third sequence of Snell “indicates” that the modulation type used has reverted to the first modulation method, e.g., BPSK, were not previously presented to the Office. In addition, the Office determined that these arguments by the requester have merit, and specifically apply to a limitation recited in each of the only two claims requested to be reexamined, i.e., claims 2 and 59. For these reasons, the presentation of these arguments was deemed to warrant an order for reexamination.

#### D. The Office Balances the Protection of the Patent Owner Against Harassment with the Public Interest in Ensuring the Validity of Patent Claims

When determining whether to exercise its discretion under 35 U.S.C. 325(d) in an *ex parte* reexamination proceeding, the Office reviews the entire record of the patent requested to be

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<sup>21</sup> For example, see, generally, pages 23-29, and particularly pages 25-27 of the request for reexamination.

<sup>22</sup> Boer discloses that the SIGNAL field of Boer has a first predetermined value if the DATA field is transmitted at the 1 Mbps rate and a second predetermined value if the DATA field is transmitted at the 2, 5 or 8 Mbps rates (see column 4, lines 4-7 of Boer). Boer also discloses that the 1 and 2 Mbps rates use DBPSK and DQPSK modulation, respectively. The 5 and 8 Mbps rates use PPM/DQPSK modulation (see the abstract of Boer). The table of Snell, however, *more clearly sets forth* how the SIGNAL (third sequence) “indicates” that communication has reverted to the first modulation method as recited in claim 2, as set forth in this decision.

<sup>23</sup> See page 25 of the request.

<sup>24</sup> See pages 26-27 of the request.

reexamined, including the original prosecution of the patent and any post grant Office proceedings involving the patent, including reexamination proceedings, reissue applications, and PTAB trial proceedings such as *inter partes* reviews. Where, as here, multiple challenges have been filed with the Office against the patent requested to be reexamined, the Office balances the protection of the patent owner against harassment with the public interest in ensuring the validity of patent claims.<sup>25</sup>

As evidence of harassment by the requester, the patent owner points to thirteen previous *inter partes* reviews filed by the requester.<sup>26</sup> However, the record shows that ten of the thirteen previous *inter partes* reviews pointed out by the patent owner as evidence of harassment either did not involve the '580 patent (7), or involved the '580 patent but did not involve the specific claims of the '580 patent requested to be reexamined in the present proceeding (3).<sup>27</sup> Of the remaining three previous *inter partes* reviews, which did involve the claims requested to be reexamined, the petitions for *inter partes* review in two of them were filed on the same day. Petitions in trial proceedings at the PTAB, such as *inter partes* reviews, are subject to a word count or page limit. See 37 CFR 42.24. For this reason, the *simultaneous* filing of *inter partes* review petitions is not necessarily evidence of harassment.<sup>28</sup>

Furthermore, this is not a case where the requester's previous challenges to the '580 patent claims have been unsuccessful. In fact, of the original 79 claims of the '580 patent, 21 claims have been cancelled by the December 16, 2016 Inter Partes Review Certificate. In addition, 19 claims were disclaimed by the patent owner during the previous *inter partes* reviews.

In view of these facts, the patent owner cannot expect the Office, in a reexamination proceeding, to ignore requester's arguments in the request for reexamination where, as here: i) requester's arguments in the request specifically apply to a limitation recited in each of the only two claims requested to be reexamined; ii) that claim limitation is the focus of the reexamination proceeding; iii) requester's arguments in the request, with respect to how the prior art *specifically* teaches that claim limitation, were not previously presented to the Office; iv) requester's arguments clearly set forth how the prior art relied upon in the request is believed to teach that claim limitation; and v) the Office determines that requester's arguments with respect to that claim limitation have merit, such that order for reexamination is warranted.

Furthermore, the prior art relied upon in the request for reexamination to teach that limitation, i.e., Snell, was not previously presented to the Office; and the disclosure of Snell more clearly teaches that claim limitation, which is the focus of the reexamination proceeding.

In the present case, the Office reviewed the facts of the case, including any evidence of harassment, in addition to requester's arguments newly presented in the request with respect to the asserted unpatentability of claims 2 and 59, including those discussed in detail above. The

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<sup>25</sup> See, e.g., *In re Etter*, 225 USPQ 1 (Fed. Cir. 1985), in which the Federal Circuit, when discussing whether the § 282 presumption of validity has application in reexamination proceedings, stated: "Reexamination is thus neutral, the patentee and the public having an equal interest in the issuance and maintenance of valid patents."

<sup>26</sup> See, for example, page 8 of the present petition.

<sup>27</sup> See footnote 4 of this decision.

<sup>28</sup> The petitions in the '514 and '518 IPRs were simultaneously filed on March 20, 2014.

Office determined that the evidence and arguments presented in the request of the asserted unpatentability of claims 2 and 59 outweighs any evidence in the record of alleged harassment.

Taking into consideration all of the evidence of record, as discussed in detail above, the Office declined to exercise its discretion and reject the request under 35 U.S.C. 325(d) in the present reexamination proceeding.

E. The Evidence Presented in the Request of the Asserted Unpatentability of Claims 2 and 59 Weighs in Favor of Ordering Reexamination

The record shows that the PTAB in the '114 IPR exercised its discretion under 35 U.S.C. 325(d) to deny institution of *inter partes* review of claims 2 and 59. The patent owner argues that the prior art and arguments are substantially the same as those presented in the '114 IPR. However, the evidence in the present request for reexamination of the asserted unpatentability of claims 2 and 59 weighs in favor of ordering reexamination.

The patent owner is essentially arguing in its present petition that, even though the focus of the reexamination proceeding is a claim limitation which is not thought by the Office to render the claims patentable in view of the prior art and arguments presented in the request for reexamination, and that claim limitation is recited in the only claims requested to be reexamined, the Office should nevertheless exercise its discretion and reject the request pursuant to 35 U.S.C. 325(d), on the basis that the prior art and/or arguments presented in the request are substantially the same as the prior art and/or arguments which were previously presented to the Office.

The provisions of 35 U.S.C. 325(d), however, are *discretionary*, not mandatory. The statute states that “the Director **may** take into account whether, and reject the . . . request because . . .” (emphasis added). The statute does not *require* the Director to reject a request for *ex parte* reexamination. Even if the prior art and/or arguments presented in the request are considered to be substantially the same as the prior art and arguments presented in the '114 IPR, the Office is not *required* to reject the request under 35 U.S.C. 325(d), particularly where, as here, the evidence of the unpatentability of claims 2 and 59 weigh heavily in favor of ordering reexamination. In the present case, the Office reviewed the record and declined to exercise its option to reject the request under 35 U.S.C. 325(d).

Furthermore, the present proceeding is an *ex parte* reexamination proceeding, not an *inter partes* review. The statutory framework of *inter partes* review proceedings differs significantly from the statutory framework for *ex parte* reexamination proceedings. As a result, the application of 35 U.S.C. 325(d) to the facts with respect to a request for reexamination may result in a different outcome than when applied to a petition for *inter partes* review, due to the different nature of the two proceedings, as discussed Section VI of this decision.

F. The Determination by the Office Not to Exercise its Discretion under 35 U.S.C. 325(d) in the Present Proceeding is Not Inconsistent with *Inter Partes* Review Practice

The patent owner argues that the Office's determination not to exercise its discretion under 35 U.S.C. 325(d) in the present *ex parte* reexamination proceeding is inconsistent with *inter partes* review practice. Specifically, the patent owner asserts that the Office has “declined to

consider factors” that the PTAB has applied when making determinations pursuant to 35 U.S.C. 325(d). The determination by the Office not to exercise its discretion under 35 U.S.C. 325(d) in the present *ex parte* reexamination proceeding, however, is not inconsistent with *inter partes* review practice.

As an initial matter, the Supreme Court has held that, unlike the *ex parte* reexamination statute, 35 U.S.C. 314(a) does not permit the Director to determine whether to institute *inter partes* review on a claim-by-claim basis. *SAS*, slip op., pages 7-8. Pursuant to *SAS*, the PTAB issued a memorandum on April 26, 2018 stating that, where a pending *inter partes* review trial has been instituted on only some of the challenges raised in the petition, trial may be instituted on all challenges raised in the petition.<sup>29</sup> Pursuant to *SAS* and the April 26, 2018 memorandum by the PTAB, the PTAB would likely have instituted *inter partes* review of claims 2 and 59 of the ’580 patent, had the ’518 or the ’114 IPRs been pending at the time the Supreme Court’s opinion in *SAS* had been rendered. This fact weighs in favor of granting reexamination in the present proceeding.

In any event, when determining whether to institute *inter partes* review, the PTAB may apply factors relevant to its determination under 35 U.S.C. 314(a) **in addition to** analyzing whether the same or substantially the same prior art or arguments previously were presented to the Office pursuant to 35 U.S.C. 325(d). See the PTAB’s precedential opinion in *General Plastic Industrial Co. v Canon Kabushiki Kaisha*, IPR2016-01357, Paper No. 19 (PTAB September 6, 2017).<sup>30</sup> Therefore, in addition to an analysis under 35 U.S.C. 325(d), the PTAB may consider factors relevant to a 35 U.S.C. 314(a) determination. The present proceeding, however, is an *ex parte* reexamination proceeding, not an *inter partes* review. 35 U.S.C. 314(a) governs the institution of *inter partes* review, and does not apply to *ex parte* reexamination proceedings.

In *General Plastic*, the PTAB stated (citations omitted) (emphasis added):<sup>31</sup>

The Director has discretion to institute an *inter partes* review under 35 U.S.C. § 314(a) . . . The Board consistently has considered a number of factors in determining whether to exercise that discretion . . . To reiterate, those factors are as follows:

1. Whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. Whether at the time of filing of the first petition, the petitioner knew of the prior art asserted in the second petition or should have known of it;

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<sup>29</sup> See “Guidance on the Impact of SAS on AIA Trial Proceedings”, released on April 26, 2018 at [www.uspto.gov/patents-application-process/patenttrialandappealboard](http://www.uspto.gov/patents-application-process/patenttrialandappealboard).

<sup>30</sup> The PTAB’s decision in *General Plastic*, when taken with the Supreme Court’s opinion in *SAS*, identifies factors which may be applied by the PTAB when determining whether to institute review of all of the claims challenged in the petition for *inter partes* review.

<sup>31</sup> See *General Plastic*, Paper No. 19, pages 15-16.

3. Whether at the time of filing the second petition, the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition;
4. The length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
5. Whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
6. The finite resources of the Board; and
7. The requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

The PTAB further stated:<sup>32</sup>

[T]he factors set forth above . . . serve to act as a baseline of factors to be considered in our future evaluation of follow-on petitions.

When determining whether to exercise its discretion under 35 U.S.C. 314(a) in an *inter partes* review proceeding, the PTAB may evaluate the factors identified above. The PTAB may also perform an analysis pursuant to 35 U.S.C. 325(d), where appropriate. An analysis pursuant to 35 U.S.C. 325(d) is *another factor* that may be *additionally* considered by the PTAB when determining whether to exercise its discretion under 35 U.S.C. 314(a). See *General Plastic*, in which the PTAB explained (emphasis added):<sup>33</sup>

§ 325(d) is not intended to be the **sole factor** in the exercise of discretion **under § 314(a)**.

In other words, **an analysis pursuant to 35 U.S.C. 325(d) is a factor that may be considered by the PTAB in addition to the § 314(a) factors identified in *General Plastic*.**<sup>34</sup>

The patent owner argues that the Office, in the present reexamination proceeding, declined to consider factors used by the PTAB when denying institution pursuant to 35 U.S.C. 325(d). In the '114 IPR, however, which included challenges to claims 2 and 59 of the '580 patent, the factors considered by the PTAB, other than its analysis pursuant to 35 U.S.C. 325(d), are factors identified by the PTAB in *General Plastic* to be considered when exercising its discretion under 35 U.S.C. 314(a), not 35 U.S.C. 325(d).

Pursuant to *General Plastic*, an analysis pursuant to 35 U.S.C. 325(d) in an *inter partes* review does not include an analysis pursuant to 35 U.S.C. 314(a). In *General Plastic*, the PTAB

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<sup>32</sup> *Id.*, page 18.

<sup>33</sup> *Id.*

<sup>34</sup> The factors identified in *General Plastic* were first set forth in *NVIDIA Corp. v. Samsung Elec. Co.*, IPR2016-00134, Paper No. 9 (PTAB May 4, 2016).

explained that its discretion under 35 U.S.C. 314(a) is not “subordinate to or *encompassed by* § 325(d)” (emphasis added).<sup>35</sup> Rather, an analysis under 35 U.S.C. 325(d), i.e., whether the prior art or arguments previously were presented to the Office, is a factor considered by the PTAB *in addition to* the § 314(a) factors when determining whether to institute *inter partes* review. The PTAB’s decision in the ’114 IPR, when taken with the PTAB’s precedential opinion in *General Plastic*, shows that the PTAB used factors relevant to a 35 U.S.C. 314(a) determination in the ’114 IPR, in addition to evaluating whether the prior art or arguments previously were presented to the Office pursuant to 35 U.S.C. 325(d), when determining whether to institute *inter partes* review.

One of the factors that the PTAB considered in the ’114 IPR when making its determination whether to institute *inter partes* review was the limited resources of the PTAB:<sup>36</sup>

Petitioner is requesting, essentially, a second chance to challenge the claims. . . Permitting second chances in cases like this one ties up the Board’s limited resources; we must be mindful not only of this proceeding, but of “every proceeding.”

The limited resources of the PTAB, however, are not relevant to the *factual* issue of whether the same or substantially the same prior art or arguments were previously presented to the Office, pursuant to the language of 35 U.S.C. 325(d). The limited resources of the PTAB is *a factor which is considered by the PTAB when determining whether to institute inter partes review under 35 U.S.C. 314(a)*. See, e.g., factor no. 6 listed above. The PTAB was using factors relevant to a 35 U.S.C. 314(a), in addition to its evaluation pursuant to 35 U.S.C. 325(d), when making its determination whether to institute *inter partes* review. An *ex parte* reexamination proceeding, however, is not an *inter partes* review proceeding. 35 U.S.C. 314(a) does not apply to *ex parte* reexamination proceedings. The limited resources of the PTAB is not a consideration which would weigh heavily when determining whether to exercise the Office’s discretion under 35 U.S.C. 325(d) in an *ex parte* reexamination proceeding.

Furthermore, when determining whether to exercise its discretion under 35 U.S.C. 325(d) in an *inter partes* review, the PTAB has considered whether the petitioner uses, in the later IPR petition, information from earlier PTAB decisions, such as additional reasoning which was found by the PTAB to be lacking in an earlier IPR petition, in order to bolster challenges that were advanced unsuccessfully in the earlier IPR petition.<sup>37</sup> There is no mention in the language of 35 U.S.C. 325(d), however, of the use of information from earlier PTAB decisions. Rather, whether the petitioner in a trial proceeding at the PTAB uses information from earlier PTAB decisions to bolster its arguments is *a factor considered by the PTAB when determining whether to institute inter partes review under 35 U.S.C. 314(a)*. See, e.g., factor no. 3 listed above. The PTAB was using factors relevant to a 35 U.S.C. 314(a) determination, in addition to its evaluation pursuant to 35 U.S.C. 325(d), when making its determination whether to institute *inter partes* review. An *ex parte* reexamination proceeding, however, is not an *inter partes* review proceeding.

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<sup>35</sup> *Id.*, page 19.

<sup>36</sup> ’114 IPR, Paper no. 14, page 7.

<sup>37</sup> See also, e.g., *Unilever, Inc. v. The Procter & Gamble Company*, IPR2014-00506, Paper No. 17, page 8 (PTAB, July 7, 2014).



The patent owner particularly points to another factor which the PTAB has considered when determining whether to exercise its discretion under 35 U.S.C. 325(d), i.e., whether the prior art newly cited in the later IPR petition was known by the petitioner or was available to the petitioner at the time of filing the earlier IPR petition.<sup>38</sup> There is no mention in the language of 35 U.S.C. 325(d), however, of a determination whether the prior art newly cited in a later IPR petition was known by the petitioner or was available to the petitioner at the time of filing an earlier IPR petition. Rather, whether newly cited art was known by or available to the petitioner in a trial proceeding at time of filing an earlier petition in another trial proceeding is a *factor considered by the PTAB when determining whether to institute inter partes review under 35 U.S.C. 314(a)*. See, e.g., factor no. 2 listed above. The PTAB was using factors relevant to a 35 U.S.C. 314(a) determination, in addition to its evaluation pursuant to 35 U.S.C. 325(d), when making its determination whether to institute *inter partes* review. An *ex parte* reexamination proceeding, however, is not an *inter partes* review proceeding.

35 U.S.C. 314(a) does not apply to *ex parte* reexamination proceedings. It is not inconsistent for the Office, in an *ex parte* reexamination proceeding, to decline to consider factors relevant to an analysis under 35 U.S.C. 314(a), since that statute that does not apply to *ex parte* reexamination proceedings.

Furthermore, 35 U.S.C. 314(a) governs the institution of *inter partes* review, and the factors identified in *General Plastic* were specifically formulated to apply to those proceedings:<sup>39</sup>

The factors set forth above, in our view, represent a formulation of relevant considerations that permit the Board to assess the potential impacts on . . . the efficiency of the *inter partes* review process . . .

The efficiency of the *inter partes* review process, however, is not relevant to an *ex parte* reexamination proceeding. The legislative history of the America Invents Act (AIA) distinguishes a reexamination proceeding from an *inter partes* review by describing an *inter partes* review as an adjudicative proceeding:<sup>40</sup>

The Act converts inter partes reexamination from an examinational to an adjudicative proceeding, and renames the proceeding “inter partes review”.

In an adjudicative proceeding, the judge is concerned not only with the interests of the parties and the interests of the public, but also with the efficiency of the judicial process, or, in this case, the efficiency of the *inter partes* review process. An *ex parte* reexamination proceeding, however, is not an adjudicative proceeding, let alone a trial proceeding such as an *inter partes* review. The efficiency of the *inter partes* review process is not relevant to an *ex parte* reexamination proceeding.

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<sup>38</sup> See, e.g., *Samsung v. Rembrandt*, IPR ’114, Paper No. 14, page 7; *Unilever, Inc. v. The Procter & Gamble Company*, IPR2014-00506, Paper No. 17, page 6 (PTAB, July 7, 2014). See also *Ariosa Diagnostics v. Verinata Health, Inc.*, Case Nos. IPR 2013-00276 and IPR2013-00277, Paper No. 63, page 12 (PTAB May 24, 2016).

<sup>39</sup> *Id.*, page 18.

<sup>40</sup> See H.R. Report No. 112-98, part 1, pages 46-47.

In fact, the Supreme Court distinguishes *ex parte* reexamination proceedings from *inter partes* review proceedings by describing an *ex parte* reexamination proceeding as “an agency-led, inquisitorial process” for reconsidering patents, in contrast to an *inter partes* review, which is “a party-directed, adversarial process”. *SAS Institute v. Iancu*, 138 S.Ct. 1348 (decided April 24, 2018), slip op., page 6.

Therefore, it is not inconsistent for the Office, in an *ex parte* reexamination proceeding, to decline to consider factors that were formulated not with respect to an *ex parte* reexamination proceeding, but with respect to an entirely different type of proceeding.

Furthermore, even if the PTAB’s decision in the ’114 IPR to deny *inter partes* review were considered to be solely due to an analysis under 35 U.S.C. 325(d), the statutory framework of *inter partes* review proceedings differs significantly from the statutory framework for *ex parte* reexamination proceedings. As a result, the application of 35 U.S.C. 325(d) to the facts with respect to a request for reexamination may result in a different outcome than when applied to a petition for *inter partes* review, due to the different nature of the two proceedings, as discussed in Section VI of this decision.

This is not to say that some of the factors that happen to be relevant to a determination under 35 U.S.C. 314(a) in an *inter partes* review may never be considered in an *ex parte* reexamination proceeding. While some of the factors (such as, e.g., the first factor) may be considered in an *ex parte* reexamination proceeding, it is not *inconsistent* for the Office to decline to use these factors in an *ex parte* reexamination proceeding for all of the reasons set forth above. The determination pursuant to 35 U.S.C. 325(d) in an *ex parte* reexamination proceeding is conducted on a case-by-case basis.

For all of the reasons set forth above, the determination by the Office not to exercise its discretion under 35 U.S.C. 325(d) in the present *ex parte* reexamination proceeding is not inconsistent with *inter partes* review practice.

#### G. Patent Owner’s Request for Reconsideration Would Have Been Dismissed, Even If Timely Filed

For all of the reasons set forth above, patent owner’s September 18, 2017 request for reconsideration would have been dismissed, even if it were timely filed, in view of the prior art and arguments presented in the request.

In view of the specific facts and circumstances of the present case, however, the Office provides additional comments below in order to clarify Office policy with respect to issues involving 35 U.S.C. 325(d) in reexamination proceedings.

## V. Clarification of Office Policy Regarding 35 U.S.C. 325(d) Issues in Reexamination Proceedings

### A. The November 28, 2016 Decision

The patent owner argues that in the November 28, 2016 decision, the Office treated the second sentence of 35 U.S.C. 325(d) as a nullity because the Office pointed out, in that decision, that the patent owner did not discuss whether the references at issue raised a substantial new question of patentability. The patent owner also asserts that “OPLA takes the position that § 325(d), which was implemented *after* § 304, only permits the Office to deny reexamination requests that do not present a substantial new question of patentability” (emphasis in original).<sup>41</sup> The patent owner further argues that “OPLA has taken the position that § 325(d)’s instruction to take into account whether or not ‘the same or substantially the same prior art or arguments previously *were presented to the Office*’ is limited to considering issues which have been considered after an *inter partes* review trial has begun and has been completed” (emphasis in original).<sup>42</sup>

The patent owner misunderstands the November 28, 2016 decision. In that decision, the Office treated patent owner’s original September 30, 2016 petition, which was filed *after* the order for reexamination, as a petition to vacate the order. Patent owner’s original petition was treated in the same manner as a petition alleging that the reexamination order is *ultra vires*, i.e., the Office was not authorized under 35 U.S.C. 304 to order reexamination because no substantial new question of patentability is raised by the request. See MPEP 2246, subsection II. In order to challenge the order for reexamination, such a petition addresses whether a substantial new question of patentability is raised by the request.

In the November 28, 2016 decision, the Office first pointed out that the patent owner, while claiming that the same or substantially the same arguments were previously presented to the Office, did not provide any explanation of why the patent owner believed that the arguments were the same or substantially the same as those previously presented to the Office, as set forth in 35 U.S.C. 325(d). The Office also pointed out that while the determination under 35 U.S.C. 325(d) is discretionary, 35 U.S.C. 304 *requires* the Office to order reexamination if a substantial new question of patentability is raised by the request. This was not to say, however, that 35 U.S.C. 304 “does not permit the Office to deny a request for reexamination pursuant to 35 U.S.C. 325(d)” when a substantial new question of patentability is found, contrary to patent owner’s assertions. Rather, the Office intended to point out that the patent owner, in addition to omitting an explanation of patent owner’s position regarding a discretionary determination by the Office pursuant to 35 U.S.C. 325(d), also omitted any discussion of a determination under 35 U.S.C. 303(a) that the Office is required to make prior to the order for reexamination pursuant to 35 U.S.C. 304.<sup>43</sup> 35 U.S.C. 303(a) provides, in pertinent part (emphasis added):

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<sup>41</sup> See the present petition, page 6.

<sup>42</sup> See the present petition, page 8.

<sup>43</sup> Because the Office treated patent owner’s original petition in the same manner as a petition alleging that the reexamination order was *ultra vires*, the Office was pointing out that the patent owner not only failed to provide a *specific* basis under 35 U.S.C. 325(d) to reject the request, but also did not provide a *specific* basis to vacate the order as *ultra vires* by showing that no substantial new question of patentability was raised by the request, pursuant to 35 U.S.C. 303(a) and 35 U.S.C. 304. In other words, the patent owner could have provided at least one of the

Within three months following the filing of a request for reexamination under the provisions of section 302, **the Director will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request.**

Contrary to patent owner's assertions, there is no mention in the November 28, 2016 decision that 35 U.S.C. 325(d) "only permits the Office to deny reexamination requests that do not present a substantial new question of patentability", or that "§ 325(d)'s instruction to take into account whether or not 'the same or substantially the same prior art or arguments previously were presented to the Office' is limited to considering issues which have been considered after an *inter partes* review trial has begun and has been completed".<sup>44</sup>

In any event, the Office's statement in the November 28, 2016 decision that a petition addressing issues involving 35 U.S.C. 325(d) is considered to be timely, if filed *after* the order for reexamination, was in error, and has not been followed as discussed previously in this decision.

**To be considered, a petition limited to issues involving 35 U.S.C. 325(d) must be filed *before* the order for reexamination has issued. In addition, because the petition is filed *before* the order, the petition must be limited to issues involving 35 U.S.C. 325(d), and may not address any other issues, including whether a substantial new question of patentability is raised by the request. The petition should also request waiver under 37 CFR 1.183 of the provisions of 37 CFR 1.530(a) and the second sentence of 37 CFR 1.540, on the basis that the petition is limited to issues involving 35 U.S.C. 325(d).**

**B. Office Policy With Respect to 35 U.S.C. 325(d) in *Ex Parte* Reexamination Proceedings**

35 U.S.C. 304 requires the Office to issue an order granting reexamination in an *ex parte* reexamination proceeding if the Office determines that a substantial new question of patentability affecting any claim of the patent is raised by the reexamination request. 35 U.S.C. 325(d) was promulgated after the enactment of 35 U.S.C. 304. For this reason, the Office considers the provisions of 35 U.S.C. 325(d), taken together with the provisions of 35 U.S.C. 304, as permitting the Office to exercise its discretion and issue an order denying reexamination on the basis that the same or substantially the same prior art or arguments previously were presented to the Office, even if a substantial new question of patentability is determined to be raised by the request.

In the present case, reexamination was ordered on September 27, 2016.

The patent owner argues that the requester "failed to provide", in the request, a comparison of the art and arguments presented in the request with those previously presented to the Office. The

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following: i) a specific basis under 35 U.S.C. 325(d) to reject the request; and/or ii) a specific basis under 35 U.S.C. 303(a) and 35 U.S.C. 304 to vacate the order. Neither was provided.

<sup>44</sup> Rather, the Office summarized the outcome, with respect to claims 2 and 59, of the *inter partes* reviews raised by the patent owner in its original petition. The Office erroneously stated that the '518 IPR did not include a challenge to claims 2 and 59 of the '580 patent. The '518 IPR, however, did include a challenge to claims 2 and 59. Institution was denied with respect to these claims.

patent owner also asserts that the Office did not make a determination pursuant to 35 U.S.C. 325(d) prior to the order, presumably because 35 U.S.C. 325(d) was not directly addressed in the order.<sup>45</sup>

There is no requirement, however, for a requester in an *ex parte* reexamination proceeding to address the provisions of 35 U.S.C. 325(d) in the request. There is also no requirement for the examiner to discuss, in an order granting reexamination, why the Office did not exercise its discretion pursuant 35 U.S.C. 325(d) and “reject” the request.

When drafting an order or an Office action, the Office generally refers only to those statutes that the Office finds necessary to discuss in that order or Office action. For example, the issuance of an Office action that only includes rejections under 35 U.S.C. 103 does not mean that the provisions of 35 U.S.C. 102 were not also considered. Similarly, the issuance of an order that refers only to 35 U.S.C. 303 and 35 U.S.C. 304 does not mean that the provisions of 35 U.S.C. 301, 35 U.S.C. 302, and 35 U.S.C. 325(d) were not also considered.<sup>46</sup>

In the present case, the Office reviewed the provisions of 35 U.S.C. 325(d) in addition to the provisions of all other applicable statutes when determining whether to order reexamination. The Office, in its discretion, determined not to reject the request under 35 U.S.C. 325(d). Instead, reexamination was ordered.

## **VI. The Determination Whether to Reject a Reexamination Request Pursuant to 35 U.S.C. 325(d) Differs from the Analysis under 35 U.S.C. 325(d) Used by the PTAB to Deny Institution in an *Inter Partes* Review**

The patent owner argues that the analysis pursuant to 35 U.S.C. 325(d), when conducted in an *inter partes* review, should not differ from the analysis performed in an *ex parte* reexamination proceeding with respect to 35 U.S.C. 325(d).<sup>47</sup>

The statutory framework of *inter partes* review proceedings, however, differs significantly from the statutory framework for *ex parte* reexamination proceedings, and as a result, the considerations with respect to issues involving 35 U.S.C. 325(d) are not identical. The application of 35 U.S.C. 325(d) to the facts with respect to a request for reexamination may

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<sup>45</sup> See the present petition, pages 3-4; see also footnote 4.

<sup>46</sup> The patent owner points out that the examiner states, on page 17 of the final Office action mailed on July 18, 2017, that “there is no provision in the MPEP that requires [a determination that a reference is cumulative when determining if an SNQ exists] for claims that have not been reexamined before.” The patent owner also points out that the examiner states that where the claims under reexamination were the subject of a petition for *inter partes* review, but review was not instituted with respect to those claims, any teachings of the references presented in the request with respect to those claims are “new and non-cumulative”. In standard reexamination practice, however, a reference is “new and non-cumulative” if a request for reexamination of the patent claims, which may or may not rely on that reference, was previously filed, but *reexamination was not ordered with respect to those claims*. Whether the prior art or arguments presented in the request were previously presented to the Office, however, is a separate issue under 35 U.S.C. 325(d). Examiners are encouraged to contact their supervisor, or the Director of the CRU, when encountering issues under 35 U.S.C. 325(d) in a reexamination proceeding, particularly where, as here, the issues involve previously-filed trial proceedings such as *inter partes* reviews.

<sup>47</sup> See the present petition, page 11.

result in a different outcome than when applied to a petition for a trial proceeding at the PTAB. It is the nature of the proceedings and the facts and circumstances surrounding these different proceedings that can result in different outcomes.

In an *inter partes* review proceeding, both parties have a full right of participation throughout the entire procedure. Both parties also have a right to appeal the PTAB's final decision to the Court of Appeals for the Federal Circuit (Federal Circuit). In an *ex parte* reexamination proceeding, however, the right of participation of a third party requester is limited. The active participation of the third party requester ends with the reply pursuant to 37 CFR 1.535, and no further submissions on behalf of the reexamination requester is acknowledged or considered. See 35 U.S.C. 305 and 37 CFR 1.550(g). **The third party requester in an *ex parte* reexamination proceeding does not have a right to appeal the examiner's decision to the PTAB, or the resulting PTAB decision to the Federal Circuit.** See 35 U.S.C. 141. As a result, unlike *inter partes* review practice, the determination by the Office whether to exercise its discretion and deny *ex parte* reexamination pursuant to 35 U.S.C. 325(d) takes into account the fact that a third party requester does not have a full right of participation in the proceeding, including a right to appeal.

In addition, the *ex parte* reexamination statute "allows the Director to institute proceedings on a claim-by-claim and ground-by-ground basis". *SAS*, slip op., page 7. In contrast, the language of the *inter partes* review statute does not permit institution on a claim-by-claim basis. Rather, the language of the statute "anticipates a regime where a reasonable prospect of success on a single claim justifies review of all." *Id.* The Supreme Court distinguished *ex parte* reexamination proceedings from *inter partes* review proceedings by describing an *ex parte* reexamination proceeding as "an agency-led, inquisitorial process" for reconsidering patents, in contrast to an *inter partes* review, which is "a party-directed, adversarial process." *Id.*, page 6.

Furthermore, the standard used for ordering *ex parte* reexamination differs from the standard used for instituting *inter partes* review. The standard for determining whether to institute *inter partes* review is whether there is a reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition (RLP standard). See 35 U.S.C. 314(a). The standard for determining whether to order *ex parte* reexamination is whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request (SNQ standard). See 35 U.S.C. 303(a). For example, **there is no requirement in the RLP standard that the issue, or question, be "new"**. The SNQ standard, however, requires a substantial **new** question of patentability. **There is no such element in the RLP standard used in *inter partes* review proceedings.** Thus, 35 U.S.C. 325(d) introduces to PTAB proceedings the protection already substantially afforded in *ex parte* reexamination against harassment based on repetitive arguments.

As another example, a substantial new question of patentability may be raised merely because a reasonable examiner would consider the teaching of a reference *important* in determining the patentability of the claims. See MPEP 2242. In contrast, the RLP standard requires a reasonable likelihood that the petitioner would *prevail*.

In addition, the *inter partes* review statute is permissive. It does not *require* institution of *inter partes* review even if the PTAB finds that there is a reasonable likelihood that the petitioner

would prevail with respect to at least one of the claims challenged in the petition (RLP).<sup>48</sup> In contrast, absent the provisions of 35 U.S.C. 325(d), the *ex parte* reexamination statute *requires* the Office to order reexamination if the request is found to raise a substantial new question of patentability (SNQ).<sup>49</sup> In other words, if the Office does not find that the same or substantially the same prior art or arguments previously were presented to the Office, or if the Office declines to exercise its discretion under 35 U.S.C. 325(d) in view of, for example, evidence of unpatentability that was not previously evaluated by the Office, the Office is *required* to order reexamination if the request is found to raise a substantial new question of patentability, unlike *inter partes* review.

Furthermore, once an order granting *ex parte* reexamination has been issued, the Office is *required* to conduct reexamination. See 35 U.S.C. 305. There is no such statutory requirement for *inter partes* review proceedings. In fact, an *inter partes* review proceeding may be terminated upon the joint request of the petitioner and the patent owner pursuant to 35 U.S.C. 317.

In addition, unlike the *inter partes* review statute, the *ex parte* reexamination statute does not provide for the filing of a response by the patent owner *prior to* an order granting reexamination. Instead, 35 U.S.C. 304 specifies that a response by the patent owner may be filed *after* the order has issued.

For all of the reasons discussed above, the determination whether to exercise the Office's discretion and deny *ex parte* reexamination under 35 U.S.C. 325(d) differs from the analysis used by the PTAB to refuse to institute *inter partes* review, due to the significant differences in the statutory framework of the two proceedings. The application of 35 U.S.C. 325(d) to the facts with respect to a request for reexamination may result in a different outcome than when applied to a petition for a trial proceeding at the PTAB.

This is not to say that a request for reexamination filed subsequent to multiple concluded trial proceedings, such as *inter partes* reviews, involving the same claims of the same patent, and filed by the same party, is always permitted. The determination whether to exercise the Office's discretion under 35 U.S.C. 325(d) in an *ex parte* reexamination proceeding is performed on a case-by-case basis.

## VII. The Provisions of 35 U.S.C. 325(d) Complement the Protections Provided by the Substantial New Question of Patentability Standard

The patent owner asserts that “§ 325(d) was added to the America Invents Act [AIA] for, *inter alia*, the express purpose of curing the inability of the substantial new question of patentability

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<sup>48</sup> 35 U.S.C. 314(a) provides, in pertinent part (emphasis added):

The Director **may not authorize** an *inter partes* review to be instituted **unless** the Director determines that the information presented in the petition . . . shows that there is a reasonable likelihood that the petition would prevail with respect to at least 1 of the claims challenged in the petition.

<sup>49</sup> 35 U.S.C. 304 provides, in pertinent part (emphasis added):

If . . . the Director finds that a substantial new question of patentability is raised, the determination **will include an order for reexamination** of the patent for resolution of the question.

standard to prevent the abuse of *ex parte* reexamination.”<sup>50</sup> However, there is no evidence in the record which shows that the provisions of 35 U.S.C. 325(d) were drafted solely to cure a widespread “inability” in the substantial new question of patentability standard to prevent the abuse of *ex parte* reexamination. Rather, the record shows that the provisions of 35 U.S.C. 325(d) were intended to prevent an AIA proceeding from being used as a tool for harassment, and to *complement* the protections already provided by the substantial new question of patentability standard set forth in 35 U.S.C. 303(a).

To support its argument, the patent owner points to the legislative history of the AIA in H.R. Rep. No. 112-98, part 1 (June 1, 2011) (the House report), at page 48. However, there is no mention on page 48 of the House report of 35 U.S.C. 325(d) or, for that matter, of the purpose for promulgating the provisions of 35 U.S.C. 325(d). The House report at page 48 merely states that “the *changes made by* [the amendment establishing AIA proceedings] are not to be used as tools for harassment” (emphasis added). In other words, *the AIA proceedings themselves* are not to be used as tools for harassment. There is nothing on page 48 that states that previously established Office proceedings, such as reexamination proceedings, do not prevent abuse, as presently asserted. In fact, the House report expressly states (emphasis in bold added).<sup>51</sup>

. . . However, we have significant concerns about the limitations that H.R. 1249 imposes on *inter partes* review . . . The limitations imposed by H.R. 1249 and the managers [sic] amendment are motivated by assertions that **the *inter partes* procedure may be abused to harass patent owners** and interfere with the enforcement of valid patents. **However, no empirical evidence, even anecdotally, was proffered to the Committee to demonstrate such abuses occur in the current reexamination system. On the contrary,** of the 253 *inter partes* reexaminations decided since the procedure was created in 1999, 224 (89%) resulted in the modification or nullification of at least one patent claim, which means that **the challenges were ultimately found meritorious. This suggests that further limitations and deterrents against *inter partes* petitions, beyond those already in place in current law, are unnecessary and counterproductive.** (Footnotes omitted).

Contrary to patent owner’s assertions, Congress expressly stated that there was no empirical evidence that abuses occur in the current reexamination system.<sup>52</sup>

The patent owner points out that the legislative history of the AIA refers to the “abuse of *ex parte* reexamination” by stating that “[t]he second sentence of section 325(d) complements the protections against abuse of *ex parte* reexamination that are created by sections 315(e) and

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<sup>50</sup> See page 42 of the present petition.

<sup>51</sup> See H.R. Rep. No. 112-98, part 1 (June 1, 2011) (the House report), at page 164.

<sup>52</sup> The standard for *inter partes* reexaminations which was in effect at the time of H.R. Rep. 112-98, part I, prior to the effective date of the relevant provisions of the AIA, was the same standard used in *ex parte* reexamination proceedings, i.e., the SNQ standard. The standard used in *inter partes* reexaminations, however, was later amended by the AIA, effective September 15, 2011, which was after the June 1, 2011 date of H.R. Rep. 112-98, part 1. The standard for *inter partes* reexamination proceedings filed on or after September 16, 2011 and before September 16, 2012 is similar to the standard used in *inter partes* review proceedings, i.e., whether “the information presented in the request shows that there is a reasonable likelihood that the requester would prevail with respect to at least one of the claims challenged in the request” (RLP). See 35 U.S.C. 312 (transitional provision).



325(e).” In fact, the legislative history of the second sentence of 35 U.S.C. 325(d) specifically provides (emphasis added):<sup>53</sup>

In the second sentence of section 325(d), the present bill also authorizes the Director to reject any request for *ex parte* reexamination or petition for post-grant or *inter partes* review on the basis that the same or substantially the same prior art or arguments previously were presented to the Office. This will prevent parties from mounting attacks on patents that raise issues that are substantially the same as issues that were already before the Office with respect to that patent . . . The second sentence of section 325(d) complements the protections against abuse of *ex parte* reexamination that are created by sections 315(e) and 325(e). The estoppels in subsection (e) will prevent *inter partes* and post-grant review petitioners from seeking *ex parte* reexamination of issues that were raised or could have been raised in the *inter partes* or post-grant review. **The Office has generally declined to apply estoppel . . . to an issue that is raised in a request for *inter partes* reexamination if the request was not granted with respect to that issue. Under section 325(d), second sentence, however, the Office could nevertheless refuse a subsequent request for *ex parte* reexamination with respect to such an issue, even if it raises a substantial new question of patentability, because the issue previously was presented to the Office in the petition for *inter partes* or post-grant review.**

The legislative history of the second sentence of 35 U.S.C. 325(d) specifically shows that these statutory provisions apply to reexaminations because Congress intended to provide the Office with the *option* to reject a request for *ex parte* reexamination in the particular case where an issue raised in the request was previously raised, for example, in an earlier-filed request for reexamination or petition for *inter partes* review, *and reexamination was not ordered, or review was not instituted, with respect to that issue.*

The patent owner may argue that the present case is one which the second sentence of 35 U.S.C. 325(d) is designed to address, i.e., the request in the present case proposes a rejection of claims 2 and 59, and a rejection of claims 2 and 59 was also proposed in a previous *inter partes* review, but review was not instituted with respect to those claims. In the present case, however, the Office was not “forced to accept” the reexamination request. The Office declined to reject the request under 35 U.S.C. 325(d) in view of requester’s specific arguments in the request with respect to one of the limitations of claims 2 and 59, which are the only claims requested to be reexamined in the present proceeding. This claim limitation is the focus of the proceeding, and requester’s specific arguments with respect to how the prior art teaches that claim limitation were not previously presented to the Office, as discussed in detail previously. Furthermore, even if the prior art and arguments are considered to be substantially the same as those previously presented to the Office, the Office is not required to reject the request under 35 U.S.C. 325(d). In the present case, the Office carefully reviewed the record and declined to reject the request under 35 U.S.C. 325(d).

The patent owner further asserts that “the purpose behind the second sentence of § 325(d) is to permit the Office to reject reexamination requests that it was previously “forced to accept”.”<sup>54</sup>

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<sup>53</sup> 157 Cong. Rec. S1376 (daily ed. March 8, 2011) (statement of Sen. Kyl).

<sup>54</sup> See the present petition, page 6.

The legislative history shows, however, that the purpose behind the second sentence § 325(d) is to prevent AIA proceedings from being used as tools for harassment, and not merely “to reject reexamination requests that it was previously ‘forced to accept’”, as discussed previously. To support its argument, the patent owner points to the legislative history of the AIA which states:<sup>55</sup>

The Patent Office has indicated that it currently is forced to accept many requests for *ex parte* and *inter partes* reexamination that raise challenges that are cumulative to or substantially overlap with issues previously considered by the Office with respect to the patent.

This statement is accurate in the particular case where a request for reexamination raises an issue that was previously raised, for example, in an earlier-filed request for reexamination or petition for *inter partes* review, and reexamination was not ordered, or review was not instituted, in the earlier-filed proceeding with respect to that issue. In all other instances, however, where the substantial new question of patentability standard is used, the Office determines whether the teaching of a reference is cumulative to the prior art of record as a matter of standard procedure. See MPEP 2216 and 2242.

Furthermore, Congress did not amend the provisions of 35 U.S.C. 303(a) when promulgating the provisions of 35 U.S.C. 325(d). The fact that Congress left the provisions of 35 U.S.C. 303(a) intact shows that Congress intended to *complement* the protections already provided by the substantial new question of patentability standard. For example, the legislative history of the *ex parte* reexamination statute reflects an intent by Congress that the *ex parte* reexamination process would not create new opportunities to harass the patent owner. See, e.g., H.R. Rep. No. 1307 (part I), 96<sup>th</sup> Cong., 2d Sess. 7 (Statement of Congressman Kastenmeier, September 9, 1980):

This “substantial new question” requirement would protect patentees from having to respond to, or participate in unjustified reexaminations.

The legislative history of the 2002 amendment to the reexamination statute also states that the amendment “preserves the ‘substantial new question standard’ that is an important safeguard to protect all inventors against frivolous action and against harassment,” and “also preserves the discretion of the Patent and Trademark Office in evaluating these cases.”<sup>56</sup> See also *Industrial Innovation & Patent & Copyright Law Amendments: Hearings on H.R. 6933, 6934, 3806, & 214 Before the Subcommittee on Courts, Civil Liberties and the Administration of Justice of the House Committee on the Judiciary*, 96<sup>th</sup> Cong., 2<sup>nd</sup> Sess. 594 (1980) (statement of Sidney Diamond, Commissioner of Patents & Trademarks, April 24, 1980):

[The proposed *ex parte* reexamination statute] carefully protects patent owners from reexamination proceedings brought for harassment or spite. The possibility of harassing patent holders is a classic criticism of some foreign reexamination systems and we made sure it would not happen here.

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<sup>55</sup> See 157 Cong. Rec. S1376 (daily ed. March 8, 2011) (statement of Sen. Kyl).

<sup>56</sup> 147 Cong. Rec H 5358, 107<sup>th</sup> Congress, (September 5, 2001).

To prevent the use of the reexamination process to harass the patent owner, Congress included the requirement that a substantial new question of patentability based on patents and printed publications must be raised by the request. See also *Patlex v. Mossinghoff*, 771 F.2d 480, 483-484 (Fed. Cir. 1985)(italics in original), where the Federal Circuit, in quoting the statement of Commissioner Diamond immediately above, stated:

Study of the genesis of the reexamination statute leaves no doubt that the major purpose of the threshold determination whether or not to reexamine is to provide a safeguard to the patent holder . . . That is the only purpose of the procedure established by 35 U.S.C. § 303: “carefully” to protect holders of issued patents from being subjected to unwarranted reexaminations.

In addition, the purpose of *ex parte* reexamination is to permit the Office to reexamine the patent on the basis of prior art which was not previously considered, or was not fully considered, with respect to the specific claims of the patent during an earlier examination or review of the patent. There is a strong public interest that all of the prior art be considered. See *In re Etter*, 225 USPQ 1 (Fed. Cir. 1985), in which the Federal Circuit, when discussing whether the § 282 presumption of validity has application in reexamination proceedings, stated:

Reexamination is thus neutral, the patentee and the public having an equal interest in the issuance and maintenance of valid patents.

The patent owner points out that it is more than two decades since the substantial new question of patentability standard was implemented. The time lapse since implementation, however, does not render the substantial new question of patentability standard less valid, or less effective.

For all of the reasons set forth above, the record shows that Congress intended the provisions of 35 U.S.C. 325(d) to *complement* the protections provided by the substantial new question of patentability standard.

#### **VIII. The Decision in *Ariosa* to Terminate a Reexamination Proceeding Was Made in the Context of Deciding a Co-Pending *Inter Partes* Review**

The patent owner points out that in *Ariosa v. Verinata Health*, IPR2013-00276 and IPR2013-00277, Paper 63 (PTAB May 24, 2016) (*Ariosa*), the PTAB terminated a co-pending *ex parte* reexamination request pursuant to 35 U.S.C. 325(d). In *Ariosa*, however, an *inter partes* review of the patent under reexamination was ongoing, which is not the case here. In *Ariosa*, the decision by the PTAB to terminate a co-pending *ex parte* reexamination was made in the context of deciding a co-pending *inter partes* review of the same patent. Furthermore, the section of the statute, 35 U.S.C. 315(d), that authorizes the Director to terminate an on-going reexamination proceeding during the pendency of an *inter partes* review is separate and distinct from the last sentence of 35 U.S.C. 325(d), also as explained by the PTAB: “That section of the statute [35 U.S.C. 315(d)] does not refer to whether ‘the same or substantially the same prior art or arguments previously were presented to the Office’. Thus, while we may consider whether the same arguments were before us in the *inter partes* review proceeding, those considerations are not determinative of the analysis.” *Ariosa v. Illumina*, IPR2014-01093, Paper 81, page 9 (PTAB May 24, 2016). In addition, even if *Ariosa* may be considered to represent a policy of

terminating an *ex parte* reexamination proceeding which is co-pending with an *inter partes* review, there is nothing in *Ariosa* that establishes a policy with respect to ordering reexamination subsequent to a concluded *inter partes* review.

**IX. It is Longstanding Petition Practice in Reexamination Proceedings that a Petitioner Requesting the Office to Take (or Not to Take) an Action Has the Burden to Explain Why It Believes that the Action Must (or Must Not) Be Taken**

The patent owner asserts that the Office dismissed patent owner's original September 30, 2016 petition "without determining whether the same or substantially the same art or arguments had been previously presented to the Office".<sup>57</sup> The provisions of 35 U.S.C. 325(d), however, were expressly reviewed in the November 28, 2016 decision. Furthermore, in the November 28, 2016 decision, the Office expressly pointed out (emphasis added, footnotes omitted):<sup>58</sup>

The patent owner, however, does not argue that the same or substantially the same prior art or arguments previously were presented to the Office. **In fact, the patent owner admits that the art relied upon by the third party requester in the present request was not previously presented to the Office**, also as argued by the requester in its October 13, 2016 opposition. **Furthermore, the patent owner does not provide any discussion regarding whether the arguments presented in the request are the same or substantially the same as those previously presented to the Office.**

The patent owner asserts, without basis, that that if the patent owner files a petition in an *ex parte* reexamination proceeding requesting the Office to "reject" the request pursuant to 35 U.S.C. 325(d), the burden to compare the art and arguments presented in the request with those previously presented to the Office rests with the Office.<sup>59</sup> Patent owner's original petition, however, requested the Office to "reject" the request pursuant to 35 U.S.C. 325(d), because, according to the patent owner, the same prior art or arguments were previously presented to the Office. In reexamination proceedings as well as in patent applications, it is longstanding practice that a party who files a petition requesting the Office to take an action, particularly a discretionary action, is required to provide any necessary evidence with its petition in order to support its request. It is not reasonable to expect the Office to speculate what the specific basis of patent owner's request might be, or why the patent owner believes that *in this particular case*, action must (or must not) be taken.

Furthermore, the patent owner filed a petition in an *ex parte* reexamination proceeding, not a preliminary response or other paper in an *inter partes* review. The requester in an *ex parte* reexamination proceeding is not required to address the provisions of 35 U.S.C. 325(d) in the request. In addition, unlike *inter partes* review practice, there is no statutory provision for a

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<sup>57</sup> *Id.*, page 3.

<sup>58</sup> See the November 28, 2016 decision, pages 3-4.

<sup>59</sup> In an *ex parte* reexamination proceeding, the Office analyzes whether the prior art relied upon in the request is cumulative to the prior art of record when making its determination whether a substantial new question of patentability is raised by the request. This determination is reflected in the order granting reexamination. The patent owner, however, does not dispute the Office's determination in the order that a substantial new question of patentability is raised by the request.

“preliminary response” by the patent owner *prior* to the order for reexamination. In fact, the reexamination statute, 35 U.S.C. 304, specifies that a response by the patent owner may be filed *after* the order has issued. The statutory framework of *inter partes* review proceedings differs significantly from the statutory framework for *ex parte* reexamination proceedings, and as a result, the considerations with respect to issues involving 35 U.S.C. 325(d) are not identical, as discussed in detail previously. It is not reasonable to expect the Office, when deciding a petition which requests the Office to exercise its discretion under 35 U.S.C. 325(d) in an *ex parte* reexamination proceeding, to accept a burden that might be procedurally applicable in an entirely different type of proceeding, and ignore longstanding petition practice in reexamination proceedings.

It is also not reasonable to expect the Office to deviate from longstanding petition practice in this particular case, while maintaining the same longstanding practice in all other reexamination proceedings, including those in which an issue involving 35 U.S.C. 325(d) has been specifically raised by petition.

#### **X. Prosecution in the Present Reexamination Proceeding Will Continue**

In summary, patent owner’s September 18, 2017 petition under 37 CFR 1.183 to waive the provisions of 37 CFR 1.181(f) and enter and consider patent owner’s September 18, 2017 combined petition is dismissed for the reasons set forth in this decision. Furthermore, in view of the fact that the provisions of 37 CFR 1.181(f) have not been waived, patent owner’s September 18, 2017 request for reconsideration is dismissed as untimely.

In addition, as an alternate basis for dismissal, the present petition was filed after reexamination in the present case was ordered on September 27, 2016. The Office does not have the discretion to terminate an ongoing reexamination on the basis set forth in 35 U.S.C. 325(d) if no petition requesting such relief is filed until *after* reexamination has been ordered, as discussed previously. For this reason, the *discretionary* determination by the Office under 35 U.S.C. 325(d) whether to reject the request is not petitionable once the order granting reexamination has issued. Therefore, patent owner’s September 18, 2017 request for reconsideration would have been dismissed, even if the petition were timely filed.

Furthermore, as a second alternate basis for dismissal, patent owner’s September 18, 2017 request for reconsideration would have been dismissed, even if it were timely filed, in view of the arguments presented in the request, as set forth in this decision.

**Accordingly, patent owner’s September 18, 2017 request for reconsideration, including patent owner’s request that the Office vacate the order and “terminate” reexamination, i.e., vacate all subsequently-mailed Office actions and issue an order denying reexamination on the basis set forth in 35 U.S.C. 325(d) that the request is limited to the same or substantially the same prior art or arguments previously presented to the Office, is dismissed as untimely.**

The September 27, 2016 order granting reexamination, and all subsequently-mailed Office actions, **will not be vacated.** Prosecution in the present reexamination proceeding **will continue.**

**Because any exercising of the Director's authority pursuant to 35 U.S.C. 325(d) is purely discretionary, any further papers requesting the Office to take any action, or to refrain from taking any action, in view of the provisions of 35 U.S.C. 325(d) will not be entertained, and will be expunged.**

### CONCLUSION

- Patent owner's September 18, 2017 petition under 37 CFR 1.183 to waive the provisions of 37 CFR 1.181(f) is **dismissed**.
- Patent owner's September 18, 2017 request for reconsideration, including patent owner's request that the Office vacate the order and "terminate" reexamination, i.e., vacate all subsequently-mailed Office actions and issue an order denying reexamination on the basis set forth in 35 U.S.C. 325(d) that the request is limited to the same or substantially the same prior art or arguments previously presented to the Office, is **dismissed as untimely**.
- Even if patent owner's September 18, 2017 request for reconsideration were timely filed, the request for reconsideration would have been dismissed (two alternate bases for dismissal).
- The September 27, 2016 order granting reexamination, and all subsequently-mailed Office actions, **will not be vacated**. Prosecution in the present reexamination proceeding **will continue**.
- The present proceeding is being forwarded to the Central Reexamination Unit to continue prosecution.
- Any inquiry concerning this communication should be directed to the undersigned at (571) 272-7724.

/Cynthia L. Nessler/

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Cynthia L. Nessler  
Senior Legal Advisor  
Office of Patent Legal Administration

June 15, 2018

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**SUBMISSION PURSUANT TO 37 C.F.R. § 1.565(A)**

Pursuant to 37 C.F.R. § 1.565(a), Patent Owner Rembrandt respectfully submits a copy of the District Court's Order Granting Stipulated Motion for Dismissal (attached as Exhibit A) for prompt entry into the record of the reexamination file. The Order resolves all issues between Rembrandt and Samsung in *Rembrandt Wireless Techs., LP, v. Samsung Elecs. Co., Ltd., C.A. No. 2:16-CV-00170-JRG* (E.D. Tex. August 30, 2018)) involves U.S. Patent No. 8,023,580.

Any fee required for this submission may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: August 31, 2018

By: /Michael V. Battaglia/

Michael V. Battaglia, Reg. No. 64,932

**ROTHWELL, FIGG, ERNST  
& MANBECK, P.C.**

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*Attorney for Petitioner*

*Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.

*Counsel for Rembrandt Wireless Technologies, LP*



**CERTIFICATE OF SERVICE**

It is hereby certified that on this 31<sup>st</sup> day of August, 2018, the foregoing **SUBMISSION PURSUANT TO 37 C.F.R. § 1.565(A)** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
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/Michael V. Battaglia/  
\_\_\_\_\_  
Michael V. Battaglia  
Reg. No. 64,932

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**STATUS INQUIRY**

Patent Owner Rembrandt respectfully seeks information regarding the status of Reexamination 90/013808 ('808 Reexam), a reexamination of U.S. Patent No. 8,023,580 ('580 Patent). On March 19, 2018, Rembrandt timely submitted its Appeal Brief and has not received the Examiner's Answer or any other response since that time, i.e., more than five months since the Appeal Brief was submitted. Given the requirement for special dispatch in reexaminations, the five-month time period seems excessive. Thus, Rembrandt seeks information regarding this delay.

Rembrandt notes that the '580 Patent has been the subject of third party Samsung's challenges since March 20, 2014 – for over four years – first through six IPRS and now in the '808 Reexam. During this time period, the underlying litigation, *Rembrandt Wireless Techs., LP, v. Samsung Elecs. Co., Ltd.*, C.A. No. 2:16-CV-00170-JRG (E.D. Tex. August 30, 2018) was

decided by a jury in Rembrandt's favor, appealed to the Federal Circuit and affirmed, and has now been finally concluded as to all issues in the litigation. See the District Court Order in this case (Exhibit A). See also Exhibit B (a timeline of events related to this inquiry).

Rembrandt further notes that '808 Patent's term will expire in less than four months, i.e., on December 5, 2018. Given that the '580 Patent did not issue until September 20, 2011, it has been the subject of post-grant review a significant portion of its enforceable life.

Please respond to this inquiry promptly, and let Rembrandt know when it can expect further action from the Office.

Any fee required for this submission may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: August 31, 2018

By: /Michael V. Battaglia/  
Michael V. Battaglia, Reg. No. 64,932  
**ROTHWELL, FIGG, ERNST  
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*Attorney for Petitioner  
Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 31<sup>st</sup> day of August, 2018, the foregoing **STATUS INQUIRY** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
Facsimile: 202-383-8371

/Michael V. Battaglia/  
\_\_\_\_\_  
Michael V. Battaglia  
Reg. No. 64,932

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	33605005
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Keiko Shelton
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	31-AUG-2018
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:08:48
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	submission.pdf	106787  <small>06e1ba2801a9be5096bf923dfid5d4b4dbc 972b8</small>	no	3

### Warnings:

Information:					
2	Miscellaneous Incoming Letter	Exhibit_A.pdf	146307	no	2
			581bc35a349ea99fee2e498c022bc6fe139f360b		
Warnings:					
Information:					
3	Miscellaneous Incoming Letter	status_inquiry.pdf	106243	no	3
			960de3b5d52b98ff0b834eb698bb0fbcf980019		
Warnings:					
Information:					
4	Miscellaneous Incoming Letter	status_inquiry_Exhibit_A.pdf	146335	no	2
			30f5b1f89d721b414255f09c965bed3108998129		
Warnings:					
Information:					
5	Miscellaneous Incoming Letter	status_inquiry_Exhibit_B.pdf	112623	no	2
			c3e032d71690c239f8e298fc7eed893b892f753		
Warnings:					
Information:					
			<b>Total Files Size (in bytes):</b>	618295	

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	33619229
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Keiko Shelton
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	05-SEP-2018
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:42:13
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Foreign Reference	F1_CA1081848.pdf	5984533  <small>7fec4551dbf3ffb79ecda6be6f2ceb40b39b43b</small>	no	52

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58	Non Patent Literature	12_C.pdf	25136224	no	201
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**New Applications Under 35 U.S.C. 111**

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**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	90013808
	Filing Date	2016-09-12
	First Named Inventor	Bremer (U.S. Patent No. 8,023,580)
	Art Unit	3992
	Examiner Name	Yuzhen GE
	Attorney Docket Number	3277-114US-RXM1

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	2	5436901		1995-07-25	Koopman	
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		90013808
Filing Date		2016-09-12
First Named Inventor	Bremer (U.S. Patent No. 8,023,580)	
Art Unit		3992
Examiner Name	Yuzhen GE	
Attorney Docket Number		3277-114US-RXM1

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**INFORMATION DISCLOSURE  
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Attorney Docket Number		3277-114US-RXM1

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STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

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First Named Inventor	Bremer (U.S. Patent No. 8,023,580)	
Art Unit		3992
Examiner Name	Yuzhen GE	
Attorney Docket Number		3277-114US-RXM1

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
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Application Number		90013808
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First Named Inventor	Bremer (U.S. Patent No. 8,023,580)	
Art Unit		3992
Examiner Name	Yuzhen GE	
Attorney Docket Number		3277-114US-RXM1

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Attorney Docket Number		3277-114US-RXM1

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Application Number		90013808
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Art Unit		3992
Examiner Name	Yuzhen GE	
Attorney Docket Number		3277-114US-RXM1

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	90013808
	Filing Date	2016-09-12
	First Named Inventor	Bremer (U.S. Patent No. 8,023,580)
	Art Unit	3992
	Examiner Name	Yuzhen GE
	Attorney Docket Number	3277-114US-RXM1

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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	P802.11 Draft Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specification.	
	2	IEEE Std 802.11( Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications).	
	3	Proakis, John G. and Masoud, Salehi, Communication Systems Engineering ("Proakis I").	
	4	Proakis, John G. and Masoud, Salehi, Communication Systems Engineering ("Proakis II").	
	5	Gast, Matthew S., 802,11 Wireless Networks, The Definitive Guide.	
	6	Upender et al, "Communication Protocols for Embedded Systems," Embedded Systems Programming.	
	7	Data Network Evaluation Criteria Handbook, DOT/FAA/AR- 09/24 Final Report.	
	8	Upender, B. & Koopman, P., "Embedded Communication Protocol Options," Proceedings of Embedded Systems Conference 1993, Santa Clara.	
	9	Tanenbaum, A.S. COMPUTER NETWORKS, THIRD ED.	

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	90013808
Filing Date	2016-09-12
First Named Inventor	Bremer (U.S. Patent No. 8,023,580)
Art Unit	3992
Examiner Name	Yuzhen GE
Attorney Docket Number	3277-114US-RXM1

10	D.K. Sharma, et al., "Analog & Digital Modulation Techniques: An Overview," TECHNIA- International Journal of Computing Science and Communication Technologies, vol. 3.
11	Lab-Volt, Pulse Modulation and Sampling (PAM/PWM/PPM), Telecommunications Communications Technologies, available at <a href="https://www.labvolt.com/downloads/cwa8087">https://www.labvolt.com/downloads/cwa8087</a> .
12	Ke-Lin Du & M.N.S. Swami, WIRELESS COMMUNICATION SYSTEMS: FROM RF SUBSYSTEMS TO 4G ENABLING TECHNOLOGIES.
13	Je et al., "Symbol Rate and Modulation Level Controlled Adaptive Modulation/TDMA/TDD for Personal Communication Systems, 1995 IEEE 45th Vehicular Technology Conference, Vol. 1.
14	PR Newswire, Bell Labs Unveils 10-Megabit Wireless-Network Technology, Offering Five Times Today's Highest Data-Transmissions Capacity.
15	Amundsen, IEEE 802.11 Wireless LAN draft Standard.
16	Brenner, A Technical Tutorial on the IEEE 802.11 Protocol.
17	Jensen et al., Modeling and Analysis of a Collision Avoidance Protocol using SPIN and UPPAAL, BRICS, RS-96-24.
18	Hayes, et al., 802.11 Tutorial IEEE P802.11-96/49 (A-E).
19	Otsuki et al., Modulation Level Controlled Adaptive Modulation Systems with Base-Station-Based Transmission/ Reception Diversity Scheme for Personal Communications.
20	Sampei and Sunaga, Rayleigh Fading Compensation for QAM in Land Mobile Radio Communications, IEEE Transactions on Vehicular Technology, Vol. 42.

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	90013808
Filing Date	2016-09-12
First Named Inventor	Bremer (U.S. Patent No. 8,023,580)
Art Unit	3992
Examiner Name	Yuzhen GE
Attorney Docket Number	3277-114US-RXM1

21	Tasaka, Performance Analysis of Multiple Access Protocols.
22	ETSI, The ETSI HIPERLAN Standard ("HIPPERLAN") & Amendment.
23	P802.11D3.0 Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specification.
24	Crow et al., Investigation of the IEEE 802.11 Medium Access Control (MAC) Sublayer Functions.
25	Chhaya et al., Performance of asynchronous data transfer methods of IEEE 802.11 MAC protocol.
26	LaMaire, et al., Wireless LANs and mobile networking: standards and future directions.
27	Johnson et al., Standards for wireless LANs.
28	The Editors of IEEE 802.11, Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications (Draft Standard IEEE 802.11 - P802.11D1.1).
29	Hayes, IEEE 802.11 Document Order Form.
30	Kammerman et al., WaveLAN®-II: A High Performance Wireless LAN for the Unlicensed Band.
31	WaveLAN® IEEE 802.11 OEM PC Card, Lucent Technologies.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	90013808
	Filing Date	2016-09-12
	First Named Inventor	Bremer (U.S. Patent No. 8,023,580)
	Art Unit	3992
	Examiner Name	Yuzhen GE
	Attorney Docket Number	3277-114US-RXM1

	32	'Lucent Technologies' New IEEE 802.11 Compliant WaveLan(R) Family Sets the Standard in Reliability, Efficiency for Wireless LANs."
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**EXAMINER SIGNATURE**

Examiner Signature		Date Considered	
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**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	90013808
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	Art Unit	3992
	Examiner Name	Yuzhen GE
	Attorney Docket Number	3277-114US-RXM1

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael V. Battaglia/	Date (YYYY-MM-DD)	2018-09-05
Name/Print	Michael V. Battaglia	Registration Number	64,932

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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<b>EFS ID:</b>	33622429
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Keiko Shelton
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	05-SEP-2018
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:43:53
<b>Application Type:</b>	Reexam (Patent Owner)

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	12_D.pdf	25118573  <small>12f886806beaba8e27c164481cd3667127e8a6fe</small>	no	191

**Warnings:**



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<b>Information:</b>					
3	Non Patent Literature	12_F.pdf	8165248	no	53
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<b>Information:</b>					
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<b>Information:</b>					
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<b>Warnings:</b>					
<b>Information:</b>					
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9	Non Patent Literature	2_Part2.pdf	25150179 890cf17d2c0d7ab7546300f94441e43d041353f4	no	188
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10	Non Patent Literature	2_Part3.pdf	10744884 b8b30049824ef265eddfb904fe0371e8a3a1df48	no	87
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11	Information Disclosure Statement (IDS) Form (SB08)	SB08.pdf	1011036 65fd79eddb5a621e1b6ae3bb3c56a9d153f7f632	no	15
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12	Reexam Certificate of Service	certificate_of_service.pdf	97308 9fb5a66881613e0aad03048e97516e0cac1c8da	no	1
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<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					

**CERTIFICATE OF SERVICE**

It is hereby certified that on this 10<sup>th</sup> day of December, 2018, the foregoing **NOTICE OF EXPIRATION OF '580 PATENT, REQUEST FOR A *PHILLIPS* CLAIM CONSTRUCTION OF CLAIMS 2 AND 59 OF THE '580 PATENT, AND SUPPLEMENTAL BRIEF** was served, by first-class U.S. Mail, on the attorney of record for the third-party Requesters Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., at the following address:

J. Steven Baughman, Esq.  
Ropes & Gray LLP  
IPRM – Floor 43  
Prudential Tower  
800 Boylston Street  
Boston, Massachusetts 02199-3600  
Phone: 202-508-4606  
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/Michael V. Battaglia/  
Michael V. Battaglia  
Reg. No. 64,932

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In *Ex Parte* Reexamination of : Group Art Unit: 3992  
Gordon F. BREMER :  
Patent No.: 8,023,580 B2 : Control No.: 90/013,808  
Issued: September 20, 2011 :  
Reexam Request Filed: September 12, 2016

For: SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO  
MODULATION METHODS

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**NOTICE OF EXPIRATION OF '580 PATENT, REQUEST FOR A PHILLIPS CLAIM  
CONSTRUCTION OF CLAIMS 2 AND 59 OF THE '580 PATENT, AND  
SUPPLEMENTAL BRIEF**

In this above-referenced reexamination of claims 2 and 59 of U.S. Patent No. 8,023,580 (“the ‘580 Patent”), Patent Owner Rembrandt timely filed its Appeal Brief on March 19, 2018. The Office has not yet filed its Answer. Rembrandt submits this paper to notify the Office that the ‘580 Patent expired on December 5, 2018, a fact that impacts the pending appeal. In view of the ‘580 Patent’s expiration, Rembrandt requests that the Office (1) construe claims 2 and 59, including the “at least two types of modulation methods” limitations, under *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005), and (2) in view of the proper construction under *Phillips*, reconsider and withdraw its rejections.

In the event that the rejections are not withdrawn, Rembrandt respectfully submits that good cause exists for the Board to consider the arguments below because (i) the term of the ‘580

Patent had not expired when the Appeal Brief was filed on March 19, 2018, and the authority cited below with respect to claim construction of an expired patent did not become relevant until the '580 Patent expired on December 5, 2018, and (ii) the arguments below are consistent with arguments made in the Appeal Brief. *See, e.g.*, Appeal Brief at 48-49, 52-55, 84, 88-89, 116-117.

Significantly, the Office's rejections and supporting arguments in its Final Office Action ("FOA") are based on the wrong claim construction in view of the expiration of the '580 Patent. And, in this case, the differences between the Office's construction and that under *Phillips* dictate a different outcome, given that none of the references (including the primary reference Snell) discloses or would have suggested at least two different families of modulation.

The proper claim construction of the '580 Patent under *Phillips* is a question of law that was finally and conclusively resolved in Rembrandt's favor by the Federal Circuit in *Rembrandt Wireless Technologies v. Samsung Electronics Co.*, 853 F.3d 1370, 1375-77 (Fed. Cir. 2017) -- an appeal brought by Samsung (the Requestor of this reexamination). The criticisms raised by the Office to Rembrandt's construction of "different types" were raised by the Requestor and were rejected by the Federal Circuit. As a result, the proper construction of the '580 Patent under *Phillips* is now settled law, and the Office is required to apply the Federal Circuit's claim construction going forward in this matter. *See, e.g., In re CSB-System International*, 832 F.3d 1335, 1341 (Fed. Cir. 2016 ("When a patent expires during a reexamination proceeding, the PTO should thereafter apply the *Phillips* standard for claim construction.")). The court in *CSB-System* cited *Facebook, Inc. v. Pragmatus AV, LLC*, 582 Fed. Appx. 864, 868-69 (Fed. Cir. 2014) and noted that the court in *Facebook* "appl[ied] the *Phillips* standard when patent expired after the

Board's reexamination decision pending appeal to the Federal Circuit". 832 F.3d at 1341; MPEP § 2258(I)(G) ("In a reexamination proceeding involving claims of an expired patent, claim construction pursuant to the principle set forth by the court in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) ... should be applied since the expired claim are not subject to amendment. ...").

In the related district court litigation, *Rembrandt Wireless Technologies v. Samsung Electronics Co.*, 853 F.3d 1370, 1375-77 (Fed. Cir. 2017), both the district court and the Federal Circuit applied a *Phillips* claim construction and determined that the limitation "modulation method [] of a different type" in claims 2 and 59 required at least two "different families of modulation techniques, such as the FSK family of modulation methods and the QAM family of modulation methods." *Id.* at 1377. The Office in this reexamination and the Board in the related IPRs refused to construe "modulation method [] of a different type" to require at least two "different families of modulation techniques." Instead they construed the claims under an alleged "broadest reasonable interpretation" and determined that their construction did not require at least two "different families of modulation techniques."

Given that the '580 Patent has expired, application of the broadest reasonable interpretation is no longer proper and cannot stand. Thus, Rembrandt respectfully requests that the outstanding rejections be reconsidered in light of the expiration of the '580 Patent and of the proper construction of "at least two different types" to require at least two "different families of modulation techniques," as Rembrandt previously requested prior to the '580 Patent's expiration. *See, e.g.*, Rembrandt's Appeal Brief, at 39-56; Claim Construction Order (Exhibit F to Appeal Brief) and the documents cited in Rembrandt's Appeal Brief relating to claim construction

(including the two Akl declarations). Additionally, Rembrandt submits the Declaration of Dr. Christopher R. Jones (previously submitted in IPR2014-518 as Ex. 2214) (attached), in which Dr. Jones explains why the modulation methods disclosed in Boer do not satisfy the limitations of claims 2 and 59 that require different modulation types (ones that are not in the same family), when properly construed under *Phillips*. Jones Decl. ¶¶ 28-41, 44, & 55-62. Dr. Jones' testimony regarding Boer would apply with at least equal force to the disclosure of BPSK and QPSK in Snell and Harris.

Any fee required for this submission may be charged to Counsel's Deposit Account Number 02-2135.

Respectfully submitted,

Date: December 10, 2018 By: /Michael V. Battaglia/  
Michael V. Battaglia, Reg. No. 64,932  
**ROTHWELL, FIGG, ERNST  
& MANBECK, P.C.**  
607 14<sup>th</sup> Street, N.W., Suite 800  
Washington, DC 20005  
Phone: 202-783-6040  
Facsimile: 202-783-6031

*Attorney for Petitioner  
Rembrandt Wireless Technologies, LP*

cc: Nancy J. Linck, Ph.D.  
*Counsel for Rembrandt Wireless Technologies, LP*

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	34538242
<b>Application Number:</b>	90013808
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	2211
<b>Title of Invention:</b>	SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS
<b>First Named Inventor/Applicant Name:</b>	8023580
<b>Customer Number:</b>	6449
<b>Filer:</b>	Michael Vincent Battaglia/Keiko Shelton
<b>Filer Authorized By:</b>	Michael Vincent Battaglia
<b>Attorney Docket Number:</b>	3277-0114US-RXM1
<b>Receipt Date:</b>	10-DEC-2018
<b>Filing Date:</b>	12-SEP-2016
<b>Time Stamp:</b>	16:55:36
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Notice.pdf	115937  e372b3edea28c08e6fc1b38f498a2f1391f1fed3	yes	5



Multipart Description/PDF files in .zip description			
	Document Description	Start	End
	Reexam Certificate of Service	5	5
	Notice of concurrent proceeding(s)	1	4

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**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for 90/013,808 and examiner information for GE, YUZHEN.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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BOSTON, MA 02199- 3600

***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,808 .

PATENT UNDER REEXAMINATION 8023580 .

ART UNIT 3992 .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

<b>Notice of Intent to Issue Ex Parte Reexamination Certificate</b>	<b>Control No.</b> 90/013,808	<b>Patent Under Reexamination</b> 8023580	
	<b>Examiner</b> YUZHEN GE	<b>Art Unit</b> 3992	<b>AIA Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

1.  Prosecution on the merits is (or remains) closed in this *ex parte* reexamination proceeding. This proceeding is subject to reopening at the initiative of the Office or upon petition. *Cf.* 37 CFR 1.313(a). A Certificate will be issued in view of
  - (a)  Patent owner's communication(s) filed: 10 December 2018.
  - (b)  Patent owner's failure to file an appropriate timely response to the Office action mailed: \_\_\_\_\_.
  - (c)  Patent owner's failure to timely file an Appeal Brief (37 CFR 41.31).
  - (d)  The decision on appeal by the  Board of Patent Appeals and Interferences  Court dated \_\_\_\_\_
  - (e)  Other: \_\_\_\_\_.
2. The Reexamination Certificate will indicate the following:
  - (a) Change in the Specification:  Yes  No
  - (b) Change in the Drawing(s):  Yes  No
  - (c) Status of the Claim(s):
    - (1) Patent claim(s) confirmed: 2 and 59.
    - (2) Patent claim(s) amended (including dependent on amended claim(s)): \_\_\_\_\_
    - (3) Patent claim(s) canceled: \_\_\_\_\_.
    - (4) Newly presented claim(s) patentable: \_\_\_\_\_.
    - (5) Newly presented canceled claims: \_\_\_\_\_.
    - (6) Patent claim(s)  previously  currently disclaimed: 32,34,40 and 43-44
    - (7) Patent claim(s) not subject to reexamination: See Continuation Sheet.
3.  A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
4.  Note the attached statement of reasons for patentability and/or confirmation. Any comments considered necessary by patent owner regarding reasons for patentability and/or confirmation must be submitted promptly to avoid processing delays. Such submission(s) should be labeled: "Comments On Statement of Reasons for Patentability and/or Confirmation."
5.  Note attached NOTICE OF REFERENCES CITED (PTO-892).
6.  Note attached LIST OF REFERENCES CITED (PTO/SB/08 or PTO/SB/08 substitute).
7.  The drawing correction request filed on \_\_\_\_\_ is:  approved  disapproved.
8.  Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None of the certified copies have
    - been received.
    - not been received.
    - been filed in Application No. \_\_\_\_\_.
    - been filed in reexamination Control No. \_\_\_\_\_.
    - been received by the International Bureau in PCT Application No. \_\_\_\_\_.

\* Certified copies not received: \_\_\_\_\_.
9.  Note attached Examiner's Amendment.
10.  Note attached Interview Summary (PTO-474).
11.  Other: \_\_\_\_\_.

**All correspondence** relating to this reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

/YUZHEN GE/ Primary Examiner, Art Unit 3992	/Drew Fischer/ /Stephen Stein/ SPE, Art Unit 3992 MQAS, CRU
--	--

cc: Requester (if third party requester)

Continuation of 2. (c) Status of the Claim(s)- (7) Patent claim(s) not subject to reexamination: 3,6-9,11-12,14-19,23-31,33,35-37,39,41-42,45-46,48-53,55-56,60,63-65,67-69 and 71-75

## REEXAMINATION OF U.S. PATENT 8,023,580

### Notice of Intent to Issue a Reexam Certificate (NIRC)

This NIRC addresses the *ex parte* reexamination of U.S. Patent No. 8,023,580 (“the  
5 `580 Patent”).

#### I. PATENTABLE/CONFIRMED SUBJECT MATTER

Claims 2 and 59 are confirmed. Below is the reason for the confirmation:

As acknowledged by the Patent Owner, the `580 Patent expires on Dec. 5, 2018. As a  
10 result, the broadest reasonable interpretation of claim terms is no longer proper for the claims in  
this reexamination proceeding. The claim limitations, including the “at least two types of  
modulation methods” or “different types of modulation method,” should be interpreted under  
Phillips v. AWH Corp., 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005).

Federal Circuit, in Rembrandt Wireless Technologies v. Samsung Electronics Co., 853  
15 F.3d 1370, 1375-77 (Fed. Cir. 2017), applied a Phillips claim construction and determined that  
the limitation “modulation method of a different type” in claims 2 and 59 required at least two  
“different families of modulation techniques, such as the FSK family of modulation methods and  
the QAM family of modulation methods.” Id. at 1377.

Because the prior art on the record does not teach different types of modulation methods  
20 as different families of modulation techniques such as the FSK family of modulation methods  
and the QAM family of modulation methods, claims 2 and 59 are confirmed.

## II. CONCLUSION

Patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '285 patent throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286. The third party requester is similarly apprised of the ability to disclose such proceedings.

All correspondence relating to this ex parte reexamination proceeding should be directed as follows:

By **U.S. Postal Service Mail** to:

Mail Stop Ex Parte Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

By FAX to:

(571) 273-9900  
Central Reexamination Unit

By hand to:

Customer Service Window  
Randolph Building  
401 Dulany St  
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit correspondence via the electronic filing system at <https://efs.uspto.gov/efile/nwportal/efs-registered>


Any inquiry concerning this communication or as to the status of this proceeding, should be directed to Yuzhen Ge at telephone number (571) 272-7636.

/YUZHEN GE/  
Primary Examiner, Art Unit 3992  
Central Reexamination Unit

Conferees:

/Drew Fischer/  
Patent Reexamination Specialist, Art Unit 3992  
Central Reexamination Unit

/Stephen Stein/  
Managing Quality Assurance Specialist  
Central Reexamination Unit


<b>Issue Classification</b> 	<b>Application/Control No.</b> 90/013,808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Examiner</b> YUZHEN GE	<b>Art Unit</b> 3992

CPC						
Symbol					Type	Version
H04L	/	5	/	1453	F	2013-01-01
H04L	/	27	/	0008	I	2013-01-01
H04L	/	25	/	0262	I	2013-01-01
H04L	/	1	/	206	I	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version
/	/			

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	2	
/YUZHEN GE/ Primary Examiner, Art Unit 3992	19 December 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3



<b>Issue Classification</b> 	<b>Application/Control No.</b> 90/013,808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Examiner</b> YUZHEN GE	<b>Art Unit</b> 3992


<b>INTERNATIONAL CLASSIFICATION</b>			
<b>CLAIMED</b>			
H04L	/	5	/ 12

<b>NON-CLAIMED</b>			
/		/	

<b>US ORIGINAL CLASSIFICATION</b>	
<b>CLASS</b>	<b>SUBCLASS</b>
375	261

<b>CROSS REFERENCES(S)</b>						
<b>CLASS</b>	<b>SUBCLASS (ONE SUBCLASS PER BLOCK)</b>					
455	102					
332	108	119	151			


NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	2	
/YUZHEN GE/ Primary Examiner, Art Unit 3992	19 December 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

<b>Issue Classification</b> 	<b>Application/Control No.</b> 90/013,808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Examiner</b> YUZHEN GE	<b>Art Unit</b> 3992

Claims renumbered in the same order as presented by applicant
  CPA
  T.D.
  R.1.47

CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
2	2														
59	59														

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	2	
/YUZHEN GE/ Primary Examiner, Art Unit 3992	19 December 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

<b>Reexamination</b> 	<b>Application/Control No.</b> 90/013,808	<b>Applicant(s)/Patent Under Reexamination</b> 8023580
	<b>Certificate Date</b>	<b>Certificate Number</b> C1

<b>Requester Correspondence Address:</b> <input type="checkbox"/> Patent Owner <input checked="" type="checkbox"/> Third Party
ROPES & GRAY LLP IPRM DOCKETING - FLOOR 43 PRUDENTIAL TOWER 800 BOYLSTON STREET BOSTON, MA 02199-3600

<b>LITIGATION REVIEW</b> <input checked="" type="checkbox"/>	<i>YGI</i> (examiner initials)	19 December 2018 (date)
Case Name		Director Initials
Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., C.A. No. 2:13-cv-00213-JRG (E D. Tex.), closed.		SJS for JC
Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., C.A. No. 2:16-cv-00170-JRG (E.D. Tex.), closed		
Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., No. 2016-1729 (Fed. Cir), closed.		

<b>COPENDING OFFICE PROCEEDINGS</b>	
<b>TYPE OF PROCEEDING</b>	<b>NUMBER</b>
None	

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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 Alexandria, Virginia 22313-1450  
 www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 2211

<b>SERIAL NUMBER</b> 90/013,808	<b>FILING or 371(c) DATE</b> 09/12/2016 <b>RULE</b>	<b>CLASS</b> 375	<b>GROUP ART UNIT</b> 3992	<b>ATTORNEY DOCKET NO.</b> 3277-0114US-RXM1		
<b>APPLICANTS</b> <b>INVENTORS</b> 8023580, Residence Not Provided; REMBRANDT WIRELESS TECHNOLOGIES, LP, ARLINGTON, VA; SAMSUNG ELECTRONICS CO., LTD. (3RD PTY REQ.), GYEONGGI-DO, KOREA, REPUBLIC OF; SAMSUNG ELECTRONICS AMERICA, INC. (3RD PTY REQ.), RIDGEFIELD PARK, NJ; ROPES & GRAY LLP PRUDENTIAL TOWER, BOSTON, MA <b>** CONTINUING DATA *****</b> This application is a REX of 12/543,910 08/19/2009 PAT 8023580 which is a CON of 11/774,803 07/09/2007 PAT 7675965 which is a CON of 10/412,878 04/14/2003 PAT 7248626 which is a CIP of 09/205,205 12/04/1998 PAT 6614838 which claims benefit of 60/067,562 12/05/1997 <b>** FOREIGN APPLICATIONS *****</b> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **</b>						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input type="checkbox"/> No Verified and Acknowledged <u>/YUZHEN GE/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials _____	<b>STATE OR COUNTRY</b>	<b>SHEETS DRAWINGS</b>	<b>TOTAL CLAIMS</b> 79	<b>INDEPENDENT CLAIMS</b> 7
<b>ADDRESS</b> ROTHWELL, FIGG, ERNST & MANBECK, P.C. 607 14th Street, N.W. SUITE 800 WASHINGTON, DC 20005 UNITED STATES						
<b>TITLE</b> SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS						
<b>FILING FEE RECEIVED</b> 12000	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		



US008023580C1

(12) **EX PARTE REEXAMINATION CERTIFICATE** (11446th)  
**United States Patent**  
**Bremer**

(10) **Number:** **US 8,023,580 C1**

(45) **Certificate Issued:** **Jan. 15, 2019**

(54) **SYSTEM AND METHOD OF COMMUNICATION USING AT LEAST TWO MODULATION METHODS**

(75) **Inventor:** **Gordon F. Bremer**, Clearwater, FL (US)

(73) **Assignee:** **REMBRANDT WIRELESS TECHNOLOGIES, LP**, Arlington, VA (US)

*H04L 25/02* (2006.01)

*H04L 1/20* (2006.01)

(52) **U.S. Cl.**  
CPC ..... *H04L 5/1453* (2013.01); *H04L 1/206* (2013.01); *H04L 25/0262* (2013.01); *H04L 27/0008* (2013.01)

(58) **Field of Classification Search**  
None  
See application file for complete search history.

**Reexamination Request:**  
No. 90/013,808, Sep. 12, 2016

**Reexamination Certificate for:**  
Patent No.: **8,023,580**  
Issued: **Sep. 20, 2011**  
Appl. No.: **12/543,910**  
Filed: **Aug. 19, 2009**

(56) **References Cited**  
To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/013,808, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

*Primary Examiner* — Yuzhen Ge

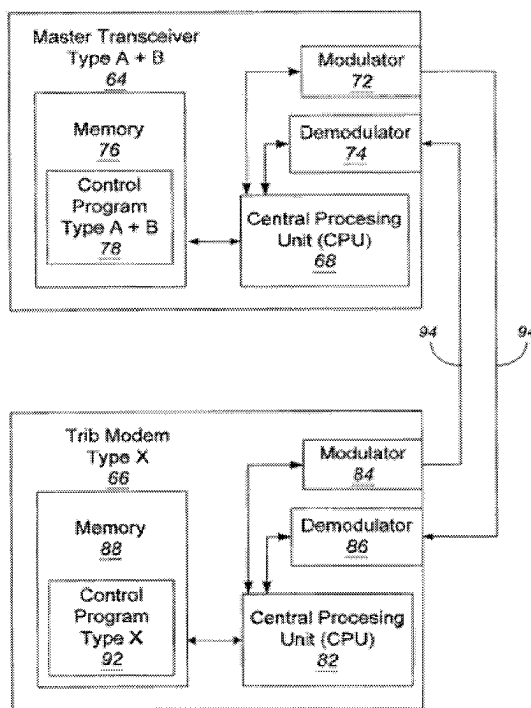
**Related U.S. Application Data**

(63) Continuation of application No. 11/774,803, filed on Jul. 9, 2007, now Pat. No. 7,675,965, which is a continuation of application No. 10/412,878, filed on Apr. 14, 2003, now Pat. No. 7,248,626, which is a continuation-in-part of application No. 09/205,205, filed on Dec. 4, 1998, now Pat. No. 6,614,838.

(60) Provisional application No. 60/067,562, filed on Dec. 5, 1997.

(51) **Int. Cl.**  
*H04L 5/12* (2006.01)  
*H04L 5/14* (2006.01)  
*H04L 27/00* (2006.01)

(57) **ABSTRACT**  
A device may be capable of communicating using at least two type types of modulation methods. The device may include a transceiver capable of acting as a master according to a master/slave relationship in which communication from a slave to a master occurs in response to communication from the master to the slave. The master transceiver may send transmissions discrete transmissions structured with a first portion and a payload portion. Information in the first portion may be modulated according to a first modulation method and indicate an impending change to a second modulation method, which is used for transmitting the payload portion. The discrete transmissions may be addressed for an intended destination of the payload portion.



**EX PARTE  
REEXAMINATION CERTIFICATE**

NO AMENDMENTS HAVE BEEN MADE TO 5  
THE PATENT

AS A RESULT OF REEXAMINATION, IT HAS BEEN  
DETERMINED THAT:

The patentability of claims 2 and 59 is confirmed. 10

Claims 1, 4-5, 10, 13, 20-22, 38, 47, 54, 57, 58, 61-62, 66,  
70 and 76-79 were previously cancelled.

Claims 24, 26-28, 31-37, 39, 40, 42-46 and 48 were  
previously disclaimed. 15

Claims 3, 6-9, 11-12, 14-19, 23, 25, 29-30, 41, 49-53,  
55-56, 60, 63-65, 67-69 and 71-75 were not reexamined.

\* \* \* \* \*