

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

MOBILE TELECOMMUNICATIONS
TECHNOLOGIES, LLC,

v.

SPRINT NEXTEL CORP.

CASE NO. 2:12-CV-832-JRG-RSP

MOBILE TELECOMMUNICATIONS
TECHNOLOGIES, LLC,

v.

APPLE INC.

CASE NO. 2:13-CV-258-JRG-RSP

MOBILE TELECOMMUNICATIONS
TECHNOLOGIES, LLC,

v.

SAMSUNG TELECOMMUNICATIONS
AMERICA, LLC.

CASE NO. 2:13-CV-259-JRG-RSP

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On March 7, 2014, the Court held a hearing to determine the proper construction of the disputed claim terms in United States Patents No. 5,590,403, 5,659,891, 5,754,946, 5,786,748, 5,809,428, 5,894,506, and 5,915,210. After considering the arguments made by the parties at the hearing and in the parties' claim construction briefing (Dkt. Nos. 107-2, 110, and 115),¹ the Court issues this Claim Construction Memorandum and Order.

¹ Citations to documents (such as the parties' briefs and exhibits) in this Claim Construction Memorandum and Order shall refer to the page numbers of the original documents rather than the page numbers assigned by the Court's electronic docket. Also, citations are to Civil Action No. 2:12-CV-832 unless otherwise indicated.

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BACKGROUND

Plaintiff brings suit alleging infringement of United States Patents No. 5,590,403 (“the ‘403 Patent”), 5,659,891 (“the ‘891 Patent”), 5,754,946 (the ‘946 Patent”), 5,786,748 (“the ‘748 Patent”), 5,809,428 (“the ‘428 Patent”), 5,894,506 (“the ‘506 Patent”), and 5,915,210 (“the ‘210 Patent”) (collectively, the “patents-in-suit”). In general, the patents-in-suit relate to wireless messaging systems. The Court addresses each patent-in-suit separately herein.

Plaintiff asserts all of the patents-in-suit against Defendant Apple Inc. Plaintiff asserts only the ‘946 Patent, the ‘428 Patent, and the ‘506 Patent against Defendant Samsung Telecommunications America, LLC. For convenience, even as to patents that are asserted only against Defendant Apple Inc., the Court refers to the positions and arguments of “Defendants.”

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 the 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.*

THE PARTIES’ STIPULATED TERMS

The parties have reached agreement on constructions for certain terms, as stated in their

Joint Claim Construction and Prehearing Statement (Dkt. No. 72 at Ex. A), their briefing (*see, e.g.*, Dkt. No. 107 at App'x 1), their Joint Claim Construction Chart (Dkt. No. 116 at Ex. A), and at the March 7, 2014 hearing. The parties' agreements are set forth in Appendix A to this Claim Construction Memorandum and Order.

CONSTRUCTION OF DISPUTED TERMS

As a threshold matter, Plaintiff submits: "For several terms drafted in means-plus-function format, Defendants dispute [Plaintiff's] inclusion of 'and equivalents' into the identified structure. It would be helpful to the jury to include this statutory phrase in each relevant construction. It is also commonplace to include this phrase—Markman Orders often acknowledge the statutory mandate of 35 U.S.C. §112." Dkt. No. 107-2 at 30. In accordance with this Court's standard practice, the Court includes "equivalents" as part of the corresponding structure for means-plus-function terms. *See* 35 U.S.C. § 112(f).

The Court herein addresses the disputed terms on a patent-by-patent basis. Terms that appear in more than one patent are noted accordingly but are not reproduced in multiple discussion sections below. The parties' briefing, as well as their arguments at the March 7, 2014 hearing, have indicated that the parties agree that disputed claim terms appearing in more than one patent should be given the same meaning for all such patents.

Finally, shortly before the start of the March 7, 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.

CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,590,403

The '403 Patent is titled "Method and System for Efficiently Providing Two Way Communication Between a Central Network and a Mobile Unit." The '403 Patent issued on December 31, 1996, and bears a filing date of November 12, 1992. In general, the '403 Patent relates to dynamic reassignment of transmitters from one zone to another. The Abstract of the '403 Patent states:

A two-way communication system for communication between a system network and a mobile unit. The system network includes a plurality of base transmitters and base receivers included in the network. The base transmitters are divided into zonal assignments and broadcast in simulcast using multi-carrier modulation techniques. The system network controls the base transmitters to broadcast in simulcast during both systemwide and zonal time intervals. The system network dynamically alters zone boundaries to maximize information throughput. The preferred mobile unit includes a noise detector circuit to prevent unwanted transmissions. The system network further provides an adaptive registration feature for mobile units which controls the registration operations by the mobile units to maximize information throughput.

The Court previously addressed the '403 Patent in *Mobile Telecommunications Technologies, LLC v. Clearwire Corp.*, No. 2:12-CV-308-JRG-RSP, Dkt. No. 72, 2013 WL 3339050, at *2-*3 (E.D. Tex. July 1, 2013) (referred to as the "*Clearwire Order*" or simply "*Clearwire*").

A. “transmitter[s]” and “base transmitter[s]”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	<p>“plain and ordinary meaning, with the understanding that the Court has rejected [Plaintiff’s] implication that transmitting multiple signals or outputs from a single structural unit can suffice as multiple transmitters”</p> <p><i>Alternatively:</i> “plain and ordinary meaning, with the understanding that transmitting multiple signals or outputs from a single structural unit cannot suffice as multiple transmitters”</p>

Dkt. No. 107-2 at 14; Dkt. No. 110 at 19; Dkt. No. 116, Ex. A at 23, 24 & 27. These terms appear in Claims 1, 10, and 11 of the ‘403 Patent. These terms also appear in Claim 5 of the ‘891 Patent.

In *Clearwire*, the Court construed the terms “transmitter” and “base transmitter” in the ‘403 Patent to have their plain and ordinary meaning. *Clearwire*, 2013 WL 3339050, at *2. The Court also found:

Although the Court recognizes that claims 1 and 10 are method claims, a person of ordinary skill in the art would understand the terms “transmitter” and “base transmitter” to refer to a structural unit, and thus, the number of transmitters in a given system or method is dependent on structure, not function. . . . [T]he Court rejects [Plaintiff’s] implication that transmitting multiple signals or outputs from a single structural unit can suffice as multiple transmitters.

Id. (citing ‘403 Patent at 15:42-44). Nonetheless, the Court also “reject[ed] *Clearwire*’s proposition that a ‘transmitter’ must be spatially separated or geographically dispersed from other transmitters, because *Clearwire* has provided no evidence to support reading such a limitation into the claims.” *Id.* at *3.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary construction for these disputed terms: “Plain [meaning] ([e]xpressly adopt the *Clearwire* findings but do not provide them to the jury as part of a constr[uction].” At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary construction, including as to the ‘210 Patent, which at the hearing the parties submitted also uses the term “transmitter[s].”

The Court therefore hereby construes “**transmitter[s]**” and “**base transmitter[s]**” to have their **plain meaning**. The Court further hereby adopts the above-quoted conclusions reached in *Clearwire* and orders that at trial the parties shall not present any arguments inconsistent with those conclusions.

B. “set[s] of transmitters” and “set of base transmitters”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction <i>Alternatively:</i> “one or more [base] transmitters”	“set[s] of at least two [base] transmitters”

Dkt. No. 107-2 at 17; Dkt. No. 110 at 20; Dkt. No. 116, Ex. A at 23. These terms appear in Claims 1 and 10 of the ‘403 Patent.

Clearwire construed “set of transmitters” to mean “a set of at least two transmitters” and “set of base transmitters” to mean “a set of at least two base transmitters.” 2013 WL 3339050, at *3. Shortly before the start of the March 7, 2014 hearing, the Court preliminarily proposed the same constructions that the Court reached in *Clearwire*.

(1) The Parties’ Positions

Plaintiff argues that Defendants’ proposal excludes the embodiment illustrated in Figures 6 and 7 that “us[es] only a single transmitter in each set.” Dkt. No. 107-2 at 17. Plaintiff

also argues that the disputed terms “are used according to their plain and ordinary meaning to indicate a logical grouping and not necessarily numerical limitation.” *Id.* at 18. Plaintiff cites a dictionary definition of “set” as “a number of things of the same kind that belong or are used together.” Dkt. No. 107, Ex. 6, *Merriam Webster’s Collegiate Dictionary* 1071 (10th ed. 1993). Plaintiff further submits that Claim 10 separately recites a requirement of at least two base transmitters by virtue of requiring simulcasting within each set of base transmitters. *Id.* at 19.

Defendants respond that they are proposing the *Clearwire* construction. Dkt. No. 110 at 20. Defendants also submit that the word “transmitters” is plural and that “there is not one example in the [’]403 Patent where a ‘set of transmitters’ consists of a single transmitter.” *Id.* Defendants urge that Plaintiff misreads its relied-upon figures, namely Figures 6 and 7, which Defendants argue use the word “transmitters,” plural, and illustrate multiple transmitters. *Id.* Finally, Defendants argue that Plaintiff has improperly equated the words “set” and “zone.” *Id.* at 20-21.

Plaintiff replies: “A preferred embodiment of the ’403 Patent discloses that a single transmitter meets the claim element ‘set of transmitters.’” Dkt. No. 115 at 6 (citing ’403 Patent at 10:50-54). Plaintiff “maintains that the proper course most consistent with the intrinsic record may be to remove the numerosity requirement from the set of transmitters element, recognize that ‘set’ simply implies shared characteristics, and decline to construe the term which is non-technical and will not confuse the jury.” Dkt. No. 115 at 6.

(2) Analysis

Claims 1 and 10 of the ’403 Patent recite (emphasis added):

1. A method for information transmission by a plurality of transmitters to provide broad communication capability over a region of space, the information transmission occurring during at least both a first time period and a second time

period and *the plurality of transmitters being divided into at least a first and second set of transmitters*, the method comprising the steps of:

- (a) generating a system information signal which includes a plurality of blocks of information;
- (b) transmitting the system information signal to the plurality of transmitters;
- (c) *transmitting by the first and second sets of transmitters* a first block of information *in simulcast* during the first time period;
- (d) *transmitting by the first set of transmitters* a second block of information during the second time period; and
- (e) *transmitting by the second set of transmitters* a third block of information during the second time period.

* * *

10. A method of communicating messages between a plurality of base transmitters and mobile receivers within a region of space divided into a plurality of zones with each zone having at least one base transmitter assigned thereto, the communication method comprising the steps of:

- (a) transmitting substantially simultaneously a first information signal and a second information signal to communicate messages to the mobile receivers, the first information signal being *transmitted in simulcast by a first set of base transmitters assigned to a first zone*, and the second information signal being *transmitted in simulcast by a second set of base transmitters assigned to a second zone*;
- (b) dynamically reassigning one or more of the base transmitters in the *first set of base transmitter [sic, transmitters]* assigned to the first zone to the *second set of base transmitters* assigned to the second zone as a function of the messages to be communicated in an area, thereby creating an updated *first set of base transmitters* and an updated *second set of base transmitters*; and
- (c) transmitting substantially simultaneously a third information signal and a fourth information signal, the third information signal being transmitted in simulcast by the updated *first set of base transmitters*, and the fourth information signal being transmitted in simulcast by the updated *second set of base transmitters* to communicate additional messages to said mobile receivers.

On one hand, the specification discloses an embodiment in which each “set” could include only one transmitter (one in each zone):

At this point, the exemplary communication system shown in FIG. 6 may transfer the message to the mobile unit during one of two time intervals. In the first time interval, *both base transmitter 612 and base transmitter 614 transmit data* via antenna 620 and antenna 622, respectively, *in simulcast* to be received by mobile unit 624, which corresponds to step 706 in FIG. 7. This first alternative may be

useful to deliver the message if, for example, the location of mobile unit 624 in *zone 1 or zone 2* is unknown and broad coverage is desired.

In the second time interval, base transmitter 614 transmits a block of information including the message data . . . and base transmitter 612 transmits another block of information, which corresponds to steps 708 and 710 of FIG. 7.

‘403 Patent at 10:39-54 (emphasis added); *see id.* at Figs. 6 & 7. Likewise, whereas Claim 10 (quoted above) explicitly recites “simulcast by a first set of base transmitters assigned to a first zone” and “simulcast by a second set of base transmitters assigned to a second zone,” Claim 1 requires simulcast only by “the first *and* second sets of transmitters,” together. *See Phillips*, 415 F.3d at 1314 (“Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.”) (citations omitted).

On the other hand, above-quoted Claim 10 recites “dynamically reassigning one or more of the base transmitters,” plural.

In some cases, a plural term does not necessarily require two or more. For example:

In the phrase “[plurality of . . .] projections with recesses therebetween,” the use of “recesses” can be understood to mean a single recess where there are only two projections and more than one recess where there are three or more projections. Indeed, . . . if the patentees had wanted to require . . . more than one recess, it would have been natural to limit the claimed invention to an insert means with a “plurality of recesses.”

Dayco Prods, Inc. v. Total Containment, Inc., 258 F.3d 1317, 1328 (Fed. Cir. 2001); *see Versa Corp. v. Ag-Bag Int’l Ltd.*, 392 F.3d 1325, 1330 (Fed. Cir. 2004) (as to the term “means . . . for creating air channels,” noting that “in context, the plural can describe a universe ranging from one to some higher number, rather than requiring more than one item”).

In general, however, the plural form of a noun refers to two or more, as found in *Markem-Imaje Corp. v. Zipher Ltd.*, 657 F.3d 1293, 1297 (Fed. Cir. 2011), and *Leggett & Platt, Inc. v. Hickory Springs Manufacturing Co.*, 285 F.3d 1353, 1357 (Fed. Cir. 2002). The Court addressed these and other relevant cases in *Calypso Wireless, Inc., et al. v. T-Mobile USA, Inc.*, No. 2:08-CV-441, Dkt. No. 281 at 27-32 (E.D. Tex. Dec. 3, 2012) (discussing *Flash Seats, LLC v. Paciolon, Inc.*, No. 07-575-JJF, 2010 WL 184080 (D. Del. Jan. 19, 2010), *aff'd*, 469 Fed. App'x 916 (Fed. Cir. 2012), *Every Penny Counts, Inc. v. Bank of Am. Corp.*, No. 2:07-CV-42-FTM-29SPC, 2008 WL 4491113 (M.D. Fla. Sept. 29, 2008), and *MOAEC, Inc. v. Pandora Media, Inc.*, No. 07-CV-654-BBC, 2008 WL 4500704 (W.D. Wis. Sept. 30, 2008)).

On balance, the use of the plural form of “transmitters” demonstrates that a “set of transmitters” requires two or more transmitters. *See, e.g., Leggett & Platt*, 285 F.3d at 1357 (“At the outset, the claim recites ‘support wires’ in the plural, thus requiring more than one welded ‘support wire.’”). The Court thus reaches the same conclusion here as in *Clearwire*.

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“set[s] of transmitters”	“set[s] of at least two transmitters”
“set of base transmitters”	“a set of at least two base transmitters”

C. “transmit . . . in simulcast,” “transmitted . . . in simulcast,” and “transmitting . . . in simulcast”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“transmitting the same information at the same time”	<p>“transmitting the same information at the same time, with the understanding that the Court has rejected [Plaintiff’s] argument that a single transmitter can operate in simulcast with itself by using multi-carrier modulation”</p> <p><i>Alternatively:</i> “transmitting the same information at the same time, with the understanding that a single transmitter cannot operate in simulcast with itself by using multi-carrier modulation”</p>

Dkt. No. 107-2 at 20; Dkt. No. 110 at 23; Dkt. No. 116, Ex. A at 23-24, 25 & 27-28. These terms appear in Claims 1, 10, and 11 of the ‘403 Patent and Claims 1, 10, and 19 of the ‘210 Patent.

Clearwire construed these disputed terms in Claims 1 and 10 of the ‘403 Patent as meaning “transmitting the same information at the same time.” *Clearwire*, 2013 WL 3339050, at *4. The Court also rejected any argument “that a single transmitter can operate in simulcast with itself by using multi-carrier modulation.” *Clearwire*, 2013 WL 3339050, at *5.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary construction for these disputed terms: “‘transmitting the same information at the same time’ ([e]xpressly adopt the *Clearwire* findings but do not provide them to the jury as part of a constr[uction].” At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary construction.

The Court therefore hereby construes **“transmit . . . in simulcast,” “transmitted . . . in simulcast,” and “transmitting . . . in simulcast”** to mean **“transmitting the same information at the same time.”** The Court further hereby adopts the above-quoted conclusion reached in

Clearwire and orders that at trial the parties shall not present any arguments inconsistent with that conclusion.

CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,659,891

The ‘891 Patent is titled “Multicarrier Techniques in Bandlimited Channels.” The ‘891 Patent issued on August 19, 1997, and bears a filing date of June 7, 1995. In general, the ‘891 Patent relates to operating more than one carrier within a single channel. The Abstract of the ‘891 Patent states:

A method of multicarrier modulation using co-located transmitters to achieve higher transmission capacity for mobile paging and two-way digital communication in a manner consistent with FCC emission mask limits. Co-location of the transmitters obviates the need for stringent, symmetrical subchannel interference protection and provides for a wider range of operating parameters, including peak frequency deviation, bit rate, and carrier frequencies, to obtain optimal transmission performance.

A. “paging carrier” and “paging system”

“paging carrier” (‘891 Patent, Claims 1 & 3)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“transmission signal modulated to carry information to one or more pagers”
“paging system” (‘891 Patent, Claim 5)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“wireless message system” ²	“system for communicating with one or more pagers”

Dkt. No. 107-2 at 12; Dkt. No. 110 at 24-25; Dkt. No. 116, Ex. A at 32 & 33.

² Plaintiff previously proposed: “No construction necessary; plain and ordinary meaning. In the alternative: ‘wireless message system.’” Dkt. No. 107-2 at 12.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “paging carrier” means “transmission signal that can be modulated to carry paging information”; and “paging system” has its plain meaning. At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary construction of “paging system.” Accordingly, the Court analyzes only the term “paging carrier” herein.

(1) The Parties’ Positions

Plaintiff argues that “[a] paging carrier is a carrier used to send a page message, not a carrier sent to a pager.” Dkt. No. 107-2 at 12. Plaintiff also argues that the preamble term “paging” is a non-limiting “descriptive name for the systems in which the methods recited by the Claims may be performed.” *Id.* at 12-13. Plaintiff further argues that “paging communications may be with telephones and other non-pager messaging devices, as the word ‘paging’ simply means notifying a person of a message.” *Id.* at 13.

Defendants respond that “the [‘]891 Patent is entirely directed to resolving perceived problems associated with bandlimited channels assigned by the FCC for mobile paging.” Dkt. No. 110 at 25. Defendants also cite an FCC definition of “paging service,” which is quoted below. *Id.* Defendants conclude that Plaintiff is attempting to remove the word “paging” from the claims. *Id.*

Plaintiff replies that by citing the FCC definition of “paging service,” Defendants seek to “require[] a specific technology/device and seek[] a definition from within that technology.” Dkt. No. 115 at 8. Plaintiff concludes that Defendants’ proposal “is thus impermissibly restrictive.” *Id.* at 9.

(2) Analysis

Claim 1 of the '891 Patent is representative and recites (emphasis added):

1. A method of operating a plurality of *paging carriers* in a single mask-defined, bandlimited channel comprising the step of transmitting said carriers from the same location with said carriers having center frequencies within said channel such that the frequency difference between the center frequency of the outer most of said carriers and the band edge of the mask defining said channel is more than half the frequency difference between the center frequencies of each adjacent carrier.

The Discussion of Related Art in the '891 Patent refers to "mobile paging":

The rising popularity of *mobile paging* services has resulted in increased competition for air time on the limited number of *radio-frequency channels* allocated by the Federal Communications Commission (FCC) for *mobile paging* use. As demand begins to approach and even exceed the capacity of assigned channels to handle transmission traffic, delays in service and deterioration of transmission quality are becoming a major concern to *mobile paging* users and providers.

The ability of *mobile paging* providers to successfully address the problem of transmission saturation is limited by the finite range of air space dedicated to *mobile paging* use. Channels assigned by the FCC to *radio paging* providers typically have narrow bandwidths (e.g. 25 kHz) and are subject to stringent emission mask limitations.

'891 Patent at 1:11-24 (emphasis added); *see id.* at 5:11-15 ("Thus, according to the present invention, increased transmission capacity is achieved by operating more than one *carrier* in a standard bandlimited channel assigned for *mobile paging* use, such as in the Narrowband Personal Communications Service or the Part 22 Service.") (emphasis added). The Abstract of the '891 Patent similarly refers to (emphasis added): "A method for multicarrier modulation using co-located transmitters to achieve higher transmission capacity for *mobile paging* and two-way digital communication in a manner consistent with FCC emission mask limits."

As to extrinsic evidence, Plaintiff has cited a technical dictionary definition of "paging" that states: "To give a message to someone who is somewhere, but where we don't know." Dkt.

No. 107, Ex. 8, *Newton’s Telecom Dictionary* 582 (15th ed. 1999). Also, Defendants have cited a Federal Communications Commission (“FCC”) document that defines “paging service” as: “Transmission of coded radio signals for the purpose of activating specific *pag*ers; such transmissions may include messages and/or sounds.” Dkt. No. 110, Ex. 18, 47 C.F.R § 22.99, p. 93 (10-1-1996 ed.) (emphasis added).

Because the word “carrier” in common parlance refers to a company rather than a signal, construction is appropriate to clarify that, as used in the patent, the term “paging carrier” refers to a signal. Such a reading is supported, for example, by the above-quoted disclosure of “operating more than one carrier in a standard bandlimited channel.” ‘891 Patent at 5:12-13.

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“ paging carrier ”	“ transmission signal that can be modulated to carry paging information ”
“ paging system ”	Plain meaning

CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,754,946

The ‘946 Patent is titled “Nationwide Communication System.” The ‘946 Patent issued on May 19, 1998, and bears a filing date of September 21, 1993. The ‘946 Patent is a continuation-in-part of the ‘403 Patent. In general, the ‘946 Patent relates to avoiding retransmission of unneeded information. The Abstract of the ‘946 Patent states:

A two-way communication system for communication between a system network and a mobile unit. The system network includes a plurality of base transmitters and base receivers included in the network. The base transmitters are divided into zonal assignments and broadcast in simulcast using multi-carrier modulation techniques. The system network controls the base transmitters to broadcast in

simulcast during both systemwide and zonal time intervals. The system network dynamically alters zone boundaries to maximize information throughput. The system also uses a mobile unit which receives messages from the network and transmits messages to the network. The mobile unit includes a switch that allows a user to request the network to retransmit a received message that contains errors.

A. “switch actuatable,” “only upon actuation of the switch,” and “only upon receipt of the indication”

“switch actuatable” (‘946 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“a mechanical switch that requires user activation”
“only upon actuation of the switch” (‘946 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“only upon user actuation of the switch, as opposed to automatically”
“only upon receipt of the indication” (‘946 Patent, Claim 8)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“only upon receipt of the indication, as opposed to automatically”

Dkt. No. 107-2 at 8; Dkt. No. 110 at 14 & 16; Dkt. No. 116, Ex. A at 19 & 22.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “switch actuatable” means “a switch that requires user activation”; “only upon actuation of the switch” and “only upon receipt of the indication” have their plain meaning. At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary constructions.

The Court therefore hereby construes the disputed terms as set forth in the following

chart:

<u>Term</u>	<u>Construction</u>
“switch actuatable”	“a switch that requires user activation”
“only upon actuation of the switch”	Plain meaning
“only upon receipt of the indication”	Plain meaning

B. “a portion of the displayed message,” “a portion of a displayed message,” and “a portion of the message”

“a portion of the displayed message” (‘946 Patent, Claims 1 & 8)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“message data associated with a partially received message”	“less than the entire displayed message”
“a portion of a displayed message” (‘946 Patent, Claim 7)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“message data associated with a partially received message”	“less than an entire displayed message”
“a portion of the message” (‘946 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“message data associated with a partially received message”	“less than the entire message”

Dkt. No. 107-2 at 21; Dkt. No. 110 at 12; Dkt. No. 116, Ex. A at 19 & 20.

(1) The Parties' Positions

Plaintiff argues that “the Specification provides for transmission of the entire message” and that “[t]he erroneous part of the message could be the entire message.” Dkt. No. 107-2 at 21 (citing ‘946 Patent at 15:39-41 & 17:14-17).

Defendants respond that the specification and the prosecution history demonstrate that a “portion” of a message must be less than the entire message. Dkt. No. 110 at 12-13. Defendants explain, for example, that “if the mobile unit does not receive a complete message (albeit one containing errors), it never displays the message on the mobile unit to allow the user to request retransmission of the erroneous message portions.” *Id.* at 14 (citing ‘506 Patent at 9:26-28 & 17:10-14).

Plaintiff replies that the prosecution history cited by Defendants merely “states a capability of the invention.” Dkt. No. 115 at 3. Plaintiff also reiterates that “[t]he specification provides for retransmission of either the entire message, or parts thereof.” *Id.* at 4.

(2) Analysis

Claim 8 of the ‘946 Patent is representative and recites (emphasis added):

8. A method for receiving and transmitting messages at a mobile unit, comprising the steps of:
- receiving at the mobile unit a radio frequency message;
 - displaying said message on the mobile unit;
 - receiving an *indication of a portion of the displayed message* for which a user desires retransmission;
 - transmitting, only upon receipt of the indication, a signal requesting *retransmission of said indicated portion of said message*;
 - receiving a retransmission of *said indicated portion*; and
 - displaying the received retransmission of *said indicated portion* on the mobile unit.

As a threshold matter, Plaintiff has not adequately explained or justified its proposal of “message data associated with a partially received message.” In particular, Plaintiff has not

identified any disclosure of displaying a partially received message. The below-quoted disclosure of retransmission of “partial messages containing errors” is not sufficiently clear in this regard. *See* ‘946 Patent at 17:10. Alternatively and in addition, Plaintiff’s proposal of the phrase “associated with” is vague and overbroad and would tend to confuse rather than clarify the scope of the claims.

As to the proper construction, the Summary of the Invention states:

To achieve the objects and in accordance with the purpose of the invention, as embodied and broadly described herein, the invention is directed to a mobile unit for transmitting and receiving radio frequency signals to and from a communications network comprising means for receiving radio frequency messages from the network, switch means for allowing a user to *request retransmission of at least parts of the message* from the communications network, and means for transmitting, upon actuation of the switch means, a signal to the communications network *requesting retransmission of the at least portions of the message*.

‘946 Patent at 5:8-18 (emphasis added). This disclosure of retransmission of “at least parts of the message” or “at least portions of the message” implies that the user could request retransmission of an entire message. Likewise, the specification discloses retransmission of entire messages:

If the mobile unit 624 does not completely receive the message, it can generate and broadcast a negative acknowledge signal. The negative acknowledge signal[] when delivered to the network operations center 600, indicates that *retransmission of the message* is necessary.

Id. at 9:26-30 (emphasis added).

The input switches 1516 also include a switch that allows the user to *request retransmission of a message corrupted by errors*.

Id. at 15:39-41 (emphasis added).

The request retransmission button 1622 *allows the user to request the base transmitters to retransmit received messages, or partial messages containing errors*. When the mobile unit receives a message containing errors, it displays the message on display 1606 with the *erroneous portions* highlighted (e.g.,

underlined, placed in brackets, or printed in reverse video). The user reads the message and determines whether the displayed message is acceptable. If not, the user can cause the system to *retransmit the message, or the erroneous portions*, by pressing request retransmission button 1622.

Id. at 17:8-17 (emphasis added). These disclosures of retransmitting an entire message could be read as weighing against Defendants’ contention that the disputed terms refer to less than an entire message.

A better reading, however, is that the patentee distinguished between retransmission of “the message” and retransmission of erroneous “portions.” *Id.* The specification thus demonstrates, particularly in the last of the above-quoted passages, that the term “portion” refers to something less than an entire message.

Moreover, during prosecution, the patentee stated that “the user can elect retransmission of only a *portion* of a message, rather than the *entire* message.” Dkt. No. 110, Ex. 13, 1/11/1996 Proposed Amendment Under 37 C.F.R §1.116 at 4 (emphasis added). The patentee thus reinforced during prosecution that “a portion of a message” is something less than the “entire message.”³

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“a portion of the displayed message”	“less than the entire displayed message”

³ At the March 7, 2014 hearing, Defendants emphasized additional prosecution history as purported evidence of the patentee’s disclaimer of interpreting the disputed terms to refer to some or all of a message. Plaintiff responded that Defendants’ arguments were not presented in Defendants’ responsive claim construction brief, and Plaintiff requested an opportunity to submit supplemental briefing. Because the Court construes the disputed terms without relying on the additional arguments presented by Defendants at the March 7, 2014 hearing, Plaintiff’s request for supplemental briefing is hereby denied as moot.

“a portion of a displayed message”	“less than an entire displayed message”
“a portion of the message”	“less than the entire message”

C. “means for retransmitting . . .” and “means for transmitting . . .”

“means for retransmitting radio frequency signals containing the portion of the message to the mobile unit” (‘946 Patent, Claim 7)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“[N]ot in 112/6⁴ format. No Construction Necessary.” <i>Alternatively:</i></p> <p>Function: “retransmitting radio frequency signals containing the portion of the message to the mobile unit”</p> <p>Structure: “base transmitter 612; base transmitter 614; base transmitter 1300; or base transmitter 1400, and equivalents”</p>	<p>Function: “retransmitting radio frequency signals containing the portion of the message to the mobile unit only upon user actuation of the switch, as opposed to automatically”</p> <p>Structure: “base transmitter 612; base transmitter 614; base transmitter 1300; or base transmitter 1400”</p>
“means for transmitting a first plurality of carrier signals within the desired frequency band, each of the first plurality of carrier signals representing a portion of the information signal substantially not represented by others of the first plurality of carrier signals” (‘210 Patent, Claim 19)	
“means for transmitting a second plurality of carrier signals in simulcast with the first plurality of carrier signals, each of the second plurality of carrier signals corresponding to and representing substantially the same information as a respective carrier signal of the first plurality of carrier signals” (‘210 Patent, Claim 19)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“Not in 112/6 format: No Construction Necessary.” <i>Alternatively:</i></p> <p>Function for “means for transmitting a first plurality . . .” (<i>agreed</i>):</p>	<p>Functions: <i>Agreed</i></p> <p>Structure: “base transmitter 1300 including data input 1302, control logic 1304, modulators</p>

⁴ 35 U.S.C. § 112, ¶ 6 (sometimes referred to as “§ 112(f”).

<p>“transmitting a first plurality of carrier signals within the desired frequency band, each of the first plurality of carrier signals representing a portion of the information signal substantially not represented by others of the first plurality of carrier signals”</p> <p>Function for “means for transmitting a second plurality . . .” (<i>agreed</i>):</p> <p>“transmitting a second plurality of carrier signals in simulcast with the first plurality of carrier signals, each of the second plurality of carrier signals corresponding to and representing substantially the same information as a respective carrier signal of the first plurality of carrier signals”</p> <p>Structure: “transmitter”</p>	<p>1306-1314, combiner 1316, power amplifier 1318, and an antenna 1320, as depicted in Fig. 13;</p> <p>OR</p> <p>base transmitter 1400 including data input 1402, control logic 1404, modulators 1406-1414, power amplifiers 1416-1424, combiner 1426, and an antenna 1428, as depicted in Fig. 14”</p>
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Dkt. No. 107-2 at 26-27; Dkt. No. 110 at 15 & 21-22; Dkt. No. 116, Ex. A at 21-22 & 29-31.

Although the “means for transmitting . . .” terms appear in a different patent than the “means for retransmitting . . .” term, Plaintiff has presented them together. *See* Dkt. No. 107-2 at 26-29. The Court therefore addresses all of these terms here.

Shortly before the start of the March 7, 2014 hearing, the Court preliminarily proposed construing the “means for transmitting” terms in accordance with Defendants’ proposal. The Court also preliminarily proposed construing “means for retransmitting . . .” as a means-plus-function term with Plaintiff’s proposed function and the parties’ agreed-upon corresponding structure. At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary construction for the “means for retransmitting . . .” term. The parties did not reach agreement as to the “means for transmitting . . .” terms. The following discussion therefore addresses only the “means for transmitting . . .” terms.

(1) The Parties' Positions

Plaintiff argues that “the §112, ¶ 6 presumption is defeated because the claim elements recite structure necessary to perform the agreed functions.” Dkt. No. 107-2 at 28. Plaintiff also argues that Defendants’ proposal for corresponding structure “is incorrect because it limits th[ese] element[s] to the preferred embodiments of Figures 13 or 14.” *Id.* at 29. At the March 7, 2014 hearing, Plaintiff presented the following alternative proposal for the corresponding structure: “a transmitter, including the transmitters disclosed in Figs 13 and 14, the transmitters as disclosed in the Specification at col. 5, ll. 26-40, and equivalents.” Plaintiff maintained that not all of the components in Figure 13 or Figure 14 are necessary, such as the “control logic” and the “combiner.”

Defendants respond that the “means for transmitting . . .” terms are means-plus-function terms because Claim 19 of the ‘210 Patent “does not recite any structure whatsoever for performing the claimed function.” Dkt. No. 110 at 22. Defendants urge that “[Plaintiff’s] alternative proposal that ‘transmitter’ is the only structure is insufficient because the recited function is not merely transmitting a signal.” *Id.*

Plaintiff replies by reiterating that the disputed terms are not means-plus-function terms. Dkt. No. 115 at 4 & 7. Alternatively, Plaintiff submits that “[t]he specification of the ‘403 Patent is replete with references to the terms ‘transmitter’ and ‘base transmitter’ and even includes an entire section entitled ‘[t]he Base Transmitter.’” *Id.* at 7 (citing ‘403 Patent at 8:41-45 & 15:41-16:23).

(2) Analysis

Plaintiff has failed to demonstrate that Claim 19 of the ‘210 Patent recites sufficient structure for the transmitting functions set forth in these disputed terms. Plaintiff has thus failed

to rebut the presumption that these disputed terms are means-plus-function terms. *See, e.g., Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004).

As to the parties' dispute regarding the corresponding structure, the specification of the '210 Patent discloses:

The base transmitters of the communication system, such as base transmitters 612 and 614 shown in FIG. 6, preferably utilize a multi-carrier modulation format as will now be described.

* * *

D. The Base Transmitter

Each base transmitter unit, such as base transmitter 612 or 614 shown in FIG. 6, receives transmitter control data and message data transmitted from the satellite 606. FIG. 13 shows a first preferred embodiment of a base transmitter 1300 in accordance with the present invention. The base transmitter 1300 receives data from the satellite downlink connected to data input 1302 which provides this data to a control logic system 1304 to control the operation of the base transmitter unit. The control logic 1304 provides a control signal to a plurality of modulators 1306, 1308, 1310, 1312, and 1314. Modulator 1306 produces a carrier signal F1, modulator 1308 produces a carrier signal F2, modulator 1310 produces a carrier signal F3, modulator 1312 produces a carrier signal F4, and modulator 1314 produces a carrier signal Fn.

For example, the control logic may generate appropriate control signals to modulate the carrier signals in a MOK, BFSK, M'ary FSK, PFSK, or quadrature amplitude modulation scheme, as previously discussed. Each modulator then provides the modulated output signal to a combiner 1316 which combines each of the several modulated carrier frequencies into a single output signal.

The single signal is then applied to a power amplifier 1318 to amplify this signal to an appropriate level. The power amplifier 1318 may, for example, produce a nominal output signal of 350 watts to antenna 1320. In this embodiment, power amplifier []1318 preferably has extremely linear characteristics to prevent formation of intermodulation products, and to insure that these intermodulation products do not cause signals to be generated at undesirable frequencies. Antenna 1320 broadcasts the desired signal from power amplifier 1318.

FIG. 14 shows a second preferred embodiment of a base transmitter unit. The second embodiment comprises a base transmitter 1400 which includes a satellite downlink connected to data input 1402, control logic 1404, and several modulators 1406, 1408, 1410, 1412, and 1414. Each modulator receives an

appropriate control signal from the control logic 1404, as previously discussed with respect to base transmitter 1300.

The output from each of modulators 1406, 1408, 1410, 1412, and 1414 in base transmitter 1400 is provided to respective power amplifiers 1416, 1418, 1420, 1422, and 1424 to provide an appropriate power output level for transmission, such as 350 watts aggregate.

The output from each of power amplifiers 1416, 1418, 1420, 1422, and 1424 is provided to combiner 1426 to combine the modulated carrier signals into a single output signal which is provided to antenna 1428 for broadcast.

'210 Patent at 13:3-5 & 15:49-16:31. For the corresponding structure, Defendants propose all of the structures illustrated in Figure 13 or, alternatively, all of the structures illustrated in Figure 14. Figures 13 and 14 of the '210 Patent are reproduced here:

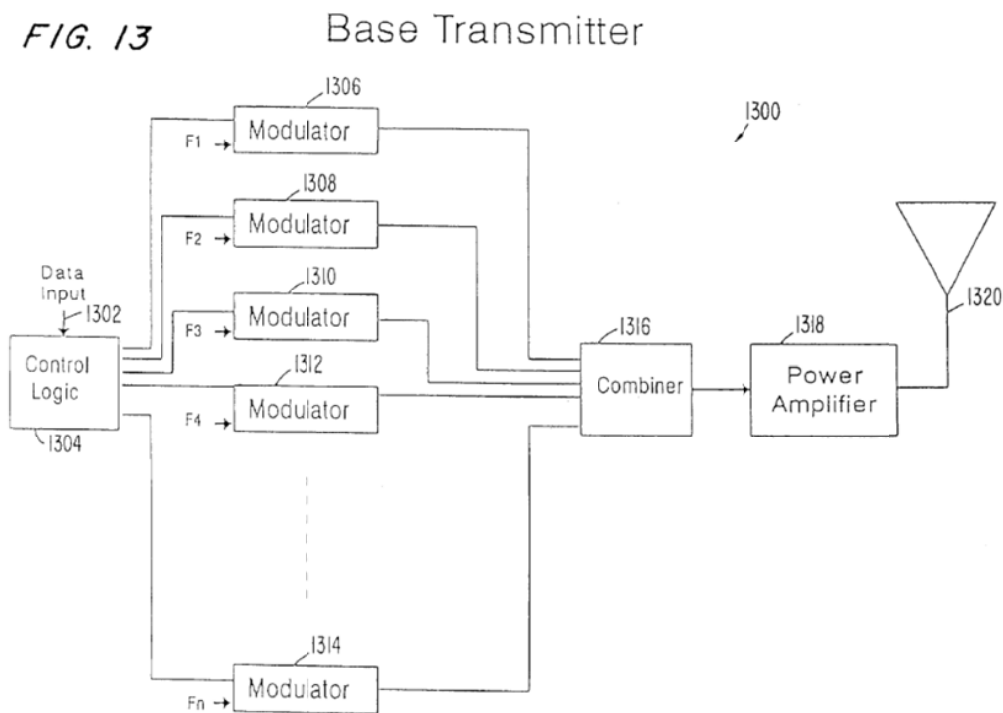
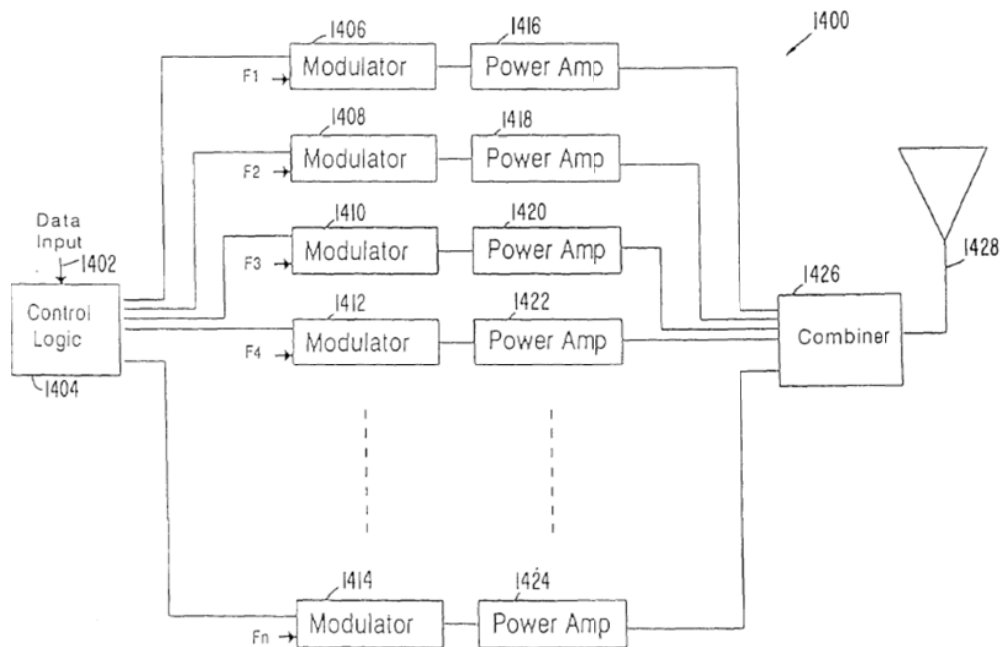


FIG. 14

Base Transmitter



As a general principle, “[a] court may not import into the claim features that are unnecessary to perform the claimed function. Features that do not perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations.” See *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003) (citations omitted); see also *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1334-35 (Fed. Cir. 2004) (finding certain “structures . . . superfluous to our claim construction analysis because they are not required for performing the claimed function”); *Acromed Corp. v. Sofamor Danek Group Inc.*, 253 F.3d 1371, 1382 (Fed. Cir. 2001) (regarding a screw as corresponding structure, finding that “[t]o limit the body portion to a diameter at least as large as the crest diameter of the second externally threaded portion would be to impermissibly import into the claim limitation specific dimensions of a preferred embodiment that are unnecessary to perform the claimed function . . .”).

Nonetheless, Plaintiff’s proposal of a “transmitter” is insufficient for performing the functions recited by the “means for transmitting . . .” terms. *See* ‘210 Patent at 5:29-44 & 9:21-26. Instead, Figures 13 and 14 illustrate embodiments in which all of the illustrated components are necessary to constitute a “transmitter” and to accomplish the recited functions. Finally, these two embodiments illustrated by Figures 13 and 14 are alternatives and should therefore be included in the Court’s construction as alternative corresponding structures. *See Ishida Co., Ltd. v. Taylor*, 221 F.3d 1310, 1316 (Fed. Cir. 2000) (noting that a patent can “disclose[] alternative structures for accomplishing the claimed function”).

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
<p>“means for retransmitting radio frequency signals containing the portion of the message to the mobile unit”</p> <p>(‘946 Patent, Claim 7)</p>	<p>Function: “retransmitting radio frequency signals containing the portion of the message to the mobile unit”</p> <p>Structure: “base transmitter 612, base transmitter 614, base transmitter 1300, or base transmitter 1400; and equivalents thereof”</p>

<p>“means for transmitting a first plurality of carrier signals within the desired frequency band, each of the first plurality of carrier signals representing a portion of the information signal substantially not represented by others of the first plurality of carrier signals” (‘210 Patent, Claim 19)</p> <p>“means for transmitting a second plurality of carrier signals in simulcast with the first plurality of carrier signals, each of the second plurality of carrier signals corresponding to and representing substantially the same information as a respective carrier signal of the first plurality of carrier signals” (‘210 Patent, Claim 19)</p>	<p>Function for “means for transmitting a first plurality . . .” (agreed):</p> <p>“transmitting a first plurality of carrier signals within the desired frequency band, each of the first plurality of carrier signals representing a portion of the information signal substantially not represented by others of the first plurality of carrier signals”</p> <p>Function for “means for transmitting a second plurality . . .” (agreed):</p> <p>“transmitting a second plurality of carrier signals in simulcast with the first plurality of carrier signals, each of the second plurality of carrier signals corresponding to and representing substantially the same information as a respective carrier signal of the first plurality of carrier signals”</p> <p>Structure:</p> <p>“base transmitter 1300 including data input 1302, control logic 1304, modulators 1306-1314, combiner 1316, power amplifier 1318, and an antenna 1320, as depicted in Figure 13; and equivalents thereof”; or</p> <p>“base transmitter 1400 including data input 1402, control logic 1404, modulators 1406-1414, power amplifiers 1416-1424, combiner 1426, and an antenna 1428, as depicted in Figure 14; and equivalents thereof”</p>
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CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,786,748

The ‘748 Patent is titled “Method and Apparatus for Giving Notification of Express Mail Delivery.” The ‘748 Patent issued on July 28, 1998, and bears a filing date of February 28, 1997. The ‘748 Patent claims priority benefit of a provisional application filed February 29, 1996. The Abstract of the ‘748 Patent states:

To provide prompt notification of delivery of an express mailing to the addressee thereof, the page number of a person to be notified upon delivery of the express mailing is communicated to an express mail tracking network and to an operations center of a wireless paging service. When the paging operations center learns of the delivery, either from the tracking network or from a page message transmitted from the delivery site, the person to be notified is paged by the operations center.

A. “wireless page message,” “page number,” and “paging operations center”

“wireless page message” (‘748 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“message sent to or from a pager in a paging network”
“page number” (‘748 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“unique number assigned to a pager in a paging network”
“paging operations center” (‘748 Patent, Claim 1)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“center operated by a paging service for sending and receiving messages to or from a pager in a paging network”

Dkt. No. 107-2 at 12; Dkt. No. 110 at 24; Dkt. No. 116, Ex. A at 35 & 36.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “wireless page message” means “message sent to or from a wireless device in a paging network”; “page number” means “number assigned to a wireless device in a paging network;” and “paging operations center” means “center operable for sending messages to a wireless device in a paging network.”

(1) The Parties' Positions

Plaintiff presents the same arguments for these terms as for the terms “paging carrier” and “paging system” in the ‘891 Patent, above. *See* Dkt. No. 107-2 at 12-14.

Defendants respond that “SMS and email were well-known technologies by 1997, when the patent application was filed, but the specification only describes messages sent to a recipient’s *pager*.” Dkt. No. 110 at 24 (citing ‘748 Patent at 2:45-51, 2:60-64, 3:38-41 & Fig. 2).

Plaintiff replies: “The failure to reference the existence of an alternative technology is not indicative of an intention to exclude it. A ‘page message’ is simply a data message (traditional page, SMS, e-mail, etc.) sent to a receiving unit called a pager. There is no evidence foreclosing other message types. [Defendants are] attempting to impose limitations from a single preferred embodiment.” Dkt. No. 115 at 8.

(2) Analysis

Claim 1 of the ‘748 Patent recites (emphasis added):

1. A method for providing notification of an express mail delivery to an addressee thereof, comprising the steps of:
 - sending to an express mail tracking service an ID number assigned to an express mailing and a *page number* of a delivery notification recipient;
 - relaying the ID, *page number*, and an appointed time to a *paging operations center*;
 - providing a first indication to the *paging operations center* that the express mailing has been delivered to the addressee;
 - providing a second indication to the *paging operations center* that the express mailing has not been delivered to the addressee by the appointed time;
 - transmitting, responsive to the first indication, a *wireless page message* to the recipient as notification of the express mailing delivery; and
 - transmitting, responsive to the second indication, a *wireless page message* to the recipient notifying recipient that the express mailing has not been delivered by the appointed time.

On one hand, Defendants’ proposed constructions use the word “pager,” thereby arguably merely rephrasing the disputed terms because Defendants have not proposed an interpretation for

“pager.” Nonetheless, Defendants’ proposed constructions appropriately clarify, for example, that “page” and “page number” do not refer to something like a page of a document or a hardware serial number of a pager.

As to Defendants’ proposal for “page number,” however, Defendants’ have not justified requiring a “unique” number. Defendants’ proposal in that regard is rejected. Likewise, Defendants have failed to support their proposal that a “paging operations center” must be operable for both sending messages to a pager *and* receiving messages from a pager. In other words, Defendants have not justified importing a two-way paging limitation. Instead, Claim 1 and the context of the specification only require that the paging operations center be operable for sending messages *to* a pager. Finally, Defendants’ proposal that a “paging operations center” must be “operated by a paging service” is unclear and unsupported and would tend to confuse rather than clarify the scope of the claim.

The Court therefore hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“wireless page message”	“message sent to or from a wireless device in a paging network”
“page number”	“number assigned to a wireless device in a paging network”
“paging operations center”	“center operable for sending messages to a wireless device in a paging network”

B. “notifying recipient that the express mailing has not been delivered by the appointed time”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“plain meaning, which is that the notification is sent after the appointed time for delivery has passed and the express mailing was not delivered by that time” ⁵

Dkt. No. 107-2 at 14; Dkt. No. 110 at 23; Dkt. No. 116, Ex. A at 36. This term appears in Claim 1 of the ‘748 Patent.

Shortly before the start of the March 7, 2014 hearing, the Court preliminarily proposed that this disputed term be construed to have its plain meaning.

(1) The Parties’ Positions

Plaintiff’s argument in its opening brief, in full, is: “The meaning is clear from the term itself, which states ‘notifying recipient that the express mailing has not been delivered by the appointed time.’” Dkt. No. 107-2 at 14.

Defendants respond that this disputed term should be given “its plain meaning, which is that the notification is sent *after* the appointed time for delivery has passed and the express mailing was *not* delivered by that time.” Dkt. No. 110 at 23. Defendants submit that “[Plaintiff’s] infringement contentions assert that notifications sent *prior* to an appointed delivery time (for purposes of rescheduling the delivery) satisfy this claim limitation.” *Id.* at 24.

Plaintiff’s argument in its reply brief, in full, is: “[Defendants] attempt[] to alter the plain and ordinary meaning to only include messages sent ‘after the appointed time for delivery has passed and the express mailing was not delivered by that time.’ [Defendants’] proposed

⁵ Defendants previously proposed: “plain meaning, *with the understanding* that the notification is sent after the appointed time for delivery has passed and the express mailing was not delivered by that time.” Dkt. No. 72, Ex. B at 8 (emphasis added).

construction seeks to add a redundant and confusing requirement to a term that jurors would easily understand, in violation of established claim construction law.” Dkt. No. 115 at 8.

(2) Analysis

Claim 1 of the ‘748 Patent recites (emphasis added):

1. A method for providing notification of an express mail delivery to an addressee thereof, comprising the steps of:
 - sending to an express mail tracking service an ID number assigned to an express mailing and a page number of a delivery notification recipient;
 - relaying the ID, page number, and *an appointed time* to a paging operations center;
 - providing a first indication to the paging operations center that the express mailing has been delivered to the addressee;
 - providing a second indication to the paging operations center that the express mailing has not been delivered to the addressee by the appointed time;*
 - transmitting, responsive to the first indication, a wireless page message to the recipient as notification of the express mailing delivery; and
 - transmitting, responsive to the second indication, a wireless page message to the recipient *notifying recipient that the express mailing has not been delivered by the appointed time.*

Defendants’ proposed construction, which merely restates the disputed term, is hereby rejected as unnecessary in light of the context set forth in the claim, quoted above. Instead, Defendants’ argument regarding Plaintiff’s infringement contentions raises factual questions of infringement rather than legal questions of 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”).

No further construction is required. *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. It is not an obligatory exercise in redundancy.”); *see also O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351,

1362 (Fed. Cir. 2008) (“[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 therefore hereby construes **“notifying recipient that the express mailing has not been delivered by the appointed time”** to have its **plain meaning**.

CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,809,428

The ‘428 Patent is titled “Method and Device for Processing Undelivered Data Messages in a Two-Way Wireless Communications System.” The ‘428 Patent issued on September 15, 1998, and bears a filing date of July 25, 1996. In general, the ‘428 Patent relates to acknowledging receipt of data messages and probe messages. The Abstract of the ‘428 Patent states:

A network operations center transmits a data message to a wireless mobile unit and waits for a data acknowledgment message. If no acknowledgment is received within a specified time, the network operations center sends a probe message to attempt to locate the mobile unit and waits for a probe acknowledgment message. If still no acknowledgment, the network operations center marks the data message as undelivered and stores it for future delivery. If a mobile unit receives a probe message while its transmitter is powered off, it displays an indication to the subscriber that there is a message waiting to be delivered. The subscriber can then dial into the network operations center to retrieve the message. Or, when the transmitter of the mobile unit is powered back on, the mobile unit sends a registration message to the network operations center; and upon receiving the registration message, the network operations center automatically re-transmits the undelivered data message to the mobile unit.

A. “network operation(s) center”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“central or distributed computers that control the operation of the network over which messages are sent and received”

Dkt. No. 107-2 at 6; Dkt. No. 110 at 7; Dkt. No. 116, Ex. A at 1 & 9. This term appears in Claim 1 of the '428 Patent and Claim 8 of the '506 Patent.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary construction for this disputed term as to Claim 1 of the '428 Patent: "This term in the preamble of Claim 1 of the '428 Patent is not a limitation." As to Claim 8 of the '506 Patent, the Court preliminarily proposed that the term be construed to have its plain meaning.

(1) The Parties' Positions

Plaintiff submits that in Claim 1 of the '428 Patent, "network operations center" appears only in the preamble and is not limiting. Dkt. No. 107-2 at 6. Plaintiff also argues that "[b]ecause the Claims describe what the network operation[s] center is and what it does, its meaning will be readily apparent to the jury." *Id.* at 6-7. Finally, Plaintiff argues that Defendants' proposal of "control the operation of the network" is not supported and that Defendants' proposal of "central or distributed computers" "would only serve to confuse the jury because the patents only describe one computer." *Id.* at 7.

Defendants respond that "under [Plaintiff's] current infringement theory, any computer that is connected to and sends data over a network ostensibly qualifies as a NOC [(network operations center)]." Dkt. No. 110 at 7. Defendants argue that "[g]iven the lack of intrinsic evidence, to construe the claim fully and properly, the Court should look to extrinsic evidence," cited below. *Id.* at 8.

Plaintiff replies that it "does not contend that 'any computer that is connected to and sends data over a network ostensibly qualified as a NOC.'" Dkt. No. 115 at 2. Plaintiff also

argues that Defendants fail to “clarify[] what it means to ‘control’ the network” and fail to “explain what the limitation ‘central or distributed computers’ means.” *Id.* at 2-3.

At the March 7, 2014 hearing, the parties agreed that a “network operation center” is not something that resides in a subscriber mobile unit.

(2) Analysis

Claim 1 of the ‘428 Patent recites (emphasis added):

1. A *network operations center* for transmitting and receiving messages to and from a wireless mobile unit comprising:
 - means for transmitting messages to the mobile unit;
 - means for receiving acknowledgment messages from the mobile unit;
 - means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message;
 - means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received; and
 - means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received.

Claim 8 of the ‘506 Patent recites (emphasis added):

8. A method of communicating messages between subscribers to an electronic messaging network, comprising the steps of:
 - maintaining, at a *network operation center*, a first file of canned messages and message codes respectively assigned to the canned messages;
 - maintaining at a first terminal of a first subscriber, a second file of canned messages and message codes corresponding to the first file;
 - maintaining, at a second terminal of a second subscriber, a third file of canned messages and message codes corresponding to the first file;
 - selecting an appropriate canned message from the second file for transmission to the second terminal;
 - sending the message code assigned to the selected canned message to the *network operation center*;
 - relaying the message code assigned to the selected canned message from the *network operation center* to the second terminal;
 - retrieving the selected canned message from the third file using the assigned message code received from the *network operation center*; and
 - displaying the selected canned message retrieved from the third file.

As to Claim 1 of the '428 Patent, the term "network operations center" appears only in the preamble and is not "necessary to give life, meaning, and vitality to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (citation and internal quotation marks omitted). Instead, the "patentee defines a structurally complete invention in the claim body" *Id.* (citation and internal quotation marks omitted).

As to Claim 8 of the '946 Patent, the specification discloses:

It should be understood that, although FIG. 20 shows the *central computer* as existing at a single location in the network operations center 600, *a distributed computing system may be used* to perform the necessary functionality of the central computer 2002. Presently, however, a single location for the *central computer* 2002 is preferred.

'946 Patent at 20:5-9 (emphasis added).

As to extrinsic evidence, Defendants have cited a Technical Feasibility Demonstration, submitted to the FCC by Plaintiff in 1992, that refers to the "NOC" (network operations center) as the "nucleus" and "the heart" of the system. Dkt. No. 110, Ex. 9 at APL-MTEL-00284114. Defendants have also cited a technical dictionary definition of "network operations center" as: "[T]he central place which monitors the status of a corporate network and sends out instructions to repair bits and pieces of the network when they break. In more formal terms, monitoring of network status, supervision and coordination of network maintenance, accumulation of accounting and usage data and user support." *Id.*, Ex. 10, *Newton's Telecom Dictionary* 697 (8th ed. 1994); *see id.*, Ex. 11, *The New IEEE Standard Dictionary of Electrical and Electronics Terms* 685 (6th ed. 1996) ("A center that is responsible for the operational aspects of a network. *Note*: among these are monitoring and controlling, trouble-shooting, user assistance.").

On one hand, "[w]hen the intrinsic evidence is silent as to the plain meaning of a term, it is entirely appropriate for the district court to look to dictionaries or other extrinsic sources for

context—to aid in arriving at the plain meaning of a claim term.” *See Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008); *see also Phillips*, 415 F.3d at 1318.

On the other hand, “heavy 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.” *Phillips*, 415 F.3d at 1321.

The above-quoted cautionary principle set forth in *Phillips* is the more compelling one as to the present disputed term. *See id.* Because Defendants’ proposed construction primarily merely rewords the disputed term itself, and because most of the additional language in Defendants’ proposal is based on extrinsic evidence, Defendants’ proposed construction is hereby expressly rejected.

On balance, in light of the parties’ binding agreement at the March 7, 2014 hearing that a “network operation center” is not something that resides in a subscriber mobile unit, and the fact that the language immediately surrounding the “network operation center” term provides ample context and meaning, no further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207.

The Court therefore hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“network operations center” (‘428 Patent, Claim 1)	This term in the preamble of Claim 1 of the ‘428 Patent is not a limitation.
“network operation center” (‘506 Patent, Claim 8)	Plain meaning

B. “probe message”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“a message sent by the network operations center to locate a mobile unit”

Dkt. No. 107-2 at 7; Dkt. No. 110 at 4; Dkt. No. 116, Ex. A at 2. This term appears in Claim 1 of the ‘428 Patent.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary construction for this disputed term: “a message sent by the network operation center to locate a mobile unit.”

(1) The Parties’ Positions

Plaintiff argues that “[t]he plain and ordinary meaning of ‘probe message’ is clear from the context; it is a message that is sent to determine whether an address can be reached.” Dkt. No. 107-2 at 7. Plaintiff also argues that Defendants’ proposal of “locate” “improperly imports a limitation from the Specification.” *Id.* at 6-7. Plaintiff further argues that “[b]y including ‘locate,’ Defendants combine the functions of the ‘probe message’ and the ‘probe acknowledge message,’ which are parts of separate claim elements and together determine the location of a mobile unit in the network.” *Id.* Finally, Plaintiff argues that “Defendants’ proposed construction unnecessarily limits the origin of a message.” *Id.* at 8.

Defendants respond that their proposed construction is the explicit definition set forth in the specification. Dkt. No. 110 at 4 (citing ‘428 Patent at 4:26-40). Defendants argue that the extrinsic dictionary definition cited by Plaintiff cannot outweigh the intrinsic definition cited by Defendants. *Id.* at 5 (citing *TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1375 (Fed. Cir. 2008) (noting that “extrinsic evidence need be given little weight in the court’s claim construction if it is outweighed by clear intrinsic evidence”)).

Plaintiff replies that “a transmission need not be transmitted by a NOC in order to be a ‘probe message.’” Dkt. No. 115 at 1 (emphasis omitted).

(2) Analysis

Although Plaintiff has proposed that no construction is required, the parties have presented a “fundamental dispute regarding the scope of a claim term,” and the Court has a duty to resolve that dispute. *O2 Micro*, 521 F.3d at 1362-63.

Claim 1 of the ‘428 Patent recites (emphasis added):

1. A network operations center for transmitting and receiving messages to and from a wireless mobile unit comprising:
 - means for transmitting messages to the mobile unit;
 - means for receiving acknowledgment messages from the mobile unit;
 - means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a *probe message*;
 - means for transmitting a *probe message* to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received; and
 - means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a *probe message* to the mobile unit, no probe acknowledgment message is received.

Plaintiff has cited an extrinsic technical dictionary definition of “probe” as: “An empty message that is sent to reach a particular address to determine if an address can be reached.” Dkt. No. 107, Ex. 1, *Newton’s Telecom Dictionary* 481 (11th ed. 1996). Although extrinsic evidence must be used with caution, technical dictionaries can be particularly useful. *Phillips*, 415 F.3d at 1318 (“Because dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention.”). Nonetheless, “heavy 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.” *Id.* at 1321.

As to the purported intrinsic definition cited by Defendants, “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. The specification discloses:

FIG. 2 shows a block diagram of a mobile unit 200, in accordance with a preferred embodiment of the present invention. Mobile unit 200 includes transmitter 202 * * *

Transmitter 202 transmits messages forwarded to it from controller 208. Preferably, transmitter 202 transmits at least three different types of messages: data messages, acknowledgment messages, and registration messages. There are preferably two forms of acknowledgment messages: data acknowledgment messages generated by a mobile unit to acknowledge receipt of data messages and probe acknowledgment messages generated by a mobile unit to acknowledge receipt of *probe messages (defined below)* transmitted from a network operations center. A registration message is generally a message generated by a mobile unit to update its location to the network operations center.

Receiver 204 receives messages and forwards them to controller 208. Receiver 204 preferably receives at least two different types of messages: data messages and probe messages. *A probe message, as described above, is generally a message generated by a network operations center to locate a mobile unit.*

‘428 Patent at 4:15-40 (emphasis added).

On balance, this statement of what “[a] probe message . . . is *generally*” is equivocal and does not amount to a lexicography. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (“Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision.”).

Although the Court thus rejects Defendants’ proposed lexicography, the above-quoted disclosure can nonetheless be considered as part of the context provide by the patent as a whole. *See Phillips*, 415 F.3d at 1313 (“Importantly, the person of ordinary skill in the art is deemed to

read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.”). In addition, the specification discloses:

It is possible that the corresponding mobile unit will acknowledge a *probe message* but not a data message sent from the network operations center because the transmission range or strategy for a *probe message* may differ from that of a data message, *as described in the incorporated U.S. patent application Ser. No. 08/124,219* [(which issued as the ‘946 Patent)]. For example, a data message may be transmitted by the network operations center only to the last known location of the corresponding mobile unit. Therefore, if the mobile unit has moved, it may miss the data message. On the other hand, *a probe message is preferably broadcast by the network operations center to all locations covered by all base transmitters, so there is a very high likelihood that it will reach the corresponding mobile unit even if the mobile unit has moved.*

‘428 Patent at 7:59-8:5 (emphasis added). The ‘946 Patent, in turn, discloses:

[T]he systemwide time interval can be used to send a “*probe*” signal that requests a particular mobile unit to broadcast an acknowledgment signal to allow the system to determine its approximate location by determining which base receiver receives the acknowledgment signal. Probe signals, thereby, may be used to track the locations of mobile units, or to uncover the location of “lost” mobile units.

‘946 Patent at 10:1-8 (emphasis added).

Finally, the following parenthetical explanation appears in the Background of the Invention in the ‘428 Patent:

That application [that issued as the ‘946 Patent] describes that the mobile unit is capable of acknowledging that it accurately received a message sent from the network operations center. The acknowledgment, however, does not indicate whether it is acknowledging the receipt of a data message or a *probe message (a message sent by the network operations center to locate a mobile unit)*. Thus, there is a need for methods and devices that allow two-way communications between a network operations center and a personal mobile unit such that successfully delivered data messages and probe messages from the network operations center can be distinctively acknowledged by the mobile unit.

‘428 Patent at 1:39-40 (emphasis added).

The intrinsic evidence thus consistently demonstrates that although a probe message need not itself specify a location or contain location information, a probe message is generated for locating a mobile unit. This consistent context should be given effect in the construction of the disputed term “probe message.” *See Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) (“In reviewing the intrinsic record to construe the claims, we strive to capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention.”); *see also Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1144-45 (Fed. Cir. 2005) (construing term “board” to mean “wood cut from a log” in light of the patentee’s consistent usage of the term; noting that patentee “is not entitled to a claim construction divorced from the context of the written description and prosecution history”); *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1333 (Fed. Cir. 2011) (“[T]he consistent reference throughout the specification to the ‘eccentric weight portion’ as structure extending from the face of the gear makes it apparent that it relates to the invention as a whole, not just the preferred embodiment.”).

As to the origin of a probe message, the term “network operations center” appears in the preamble of the claim rather than in the body. The Court has therefore found, above, that the term “network operations center” is not a limitation of Claim 1 of the ‘428 Patent. Defendants’ proposal that a “probe message” must be sent “by the network operations center” is therefore hereby expressly rejected.

Finally, all parties agreed at the March 7, 2014 hearing that the word “sent” in Defendants’ proposed construction could be replaced with “generated” so as to better match the above-quoted disclosures in the specification. *See* ‘428 Patent at 4:38-40.

The Court therefore hereby construes “**probe message**” to mean “**a message that is generated to locate a mobile unit.**”

C. “means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message”

Plaintiff’s Proposed Construction	Defendants’
Function: “determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message” Structure: “acknowledgment message processing (AMP) module 310, and/or memory 110 and processor 308 and equivalents”	Indefinite

Dkt. No. 107-2 at 23; *see* Dkt. No. 110 at 26-30; Dkt. No. 116, Ex. A at 2. This term appears in Claim 1 of the ‘428 Patent. The parties agree that this is a means-plus-function term subject to 35 U.S.C. § 112(f) (sometimes referred to as “§ 112, ¶ 6”). Dkt. No. 107-2 at 23; *see* Dkt. No. 110 at 27-30. Also, Defendants have not challenged Plaintiff’s proposal for the claimed function.

(1) The Parties’ Positions

Plaintiff argues that the specification sets forth adequate structure, in particular as illustrated in Figure 3. Dkt. No. 107-2 at 22-25.

Defendants respond:

[T]he [‘]428 Patent recites “[a]s AMP module 310 receives an acknowledgement message from MTD module 302, it first determines whether the message is a data acknowledgment message or a probe acknowledgement message.” [‘]428 Patent[] at 5:24-27. No further description is provided as to how this determination is functionally made, what logic or algorithms are employed, or any identification of specific structural components that would be utilized. Based on this limited disclosure, one of ordinary skill would not have known what structure the patentees had claimed.

Dkt. No. 110 at 28. Defendants argue that “rather than disclose the required algorithm for th[is] term[], the specification impermissibly restates the function recited in the claim.” *Id.* at 29 (citing ‘428 Patent at 4:61-5:1, 5:59-65, 6:4-8 & 6:49-54).

Plaintiff replies that no algorithm is required because “[t]he claim terms at issue fall within the *Katz* exception because the functions contained in those terms are performable by a general-purpose computer.” Dkt. No. 115 at 10 (citing *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011)). Alternatively, Plaintiff cites its opening brief and argues that “[Plaintiff] demonstrates that the ‘428 Patent contains sufficient algorithms for these terms.” Dkt. No. 115 at 10.

At the March 7, 2014 hearing, Plaintiff argued that the corresponding structure is not a general-purpose computer. Plaintiff submitted that if Defendants contend otherwise, then they have failed to meet their burden of presenting expert testimony regarding how a person of ordinary skill in the art would interpret the specification, as required by the recent *elcommerce* case. *elcommerce.com, Inc. v. SAP AG*, --- F.3d ----, 2014 WL 685622 (Fed. Cir. Feb. 24, 2014).⁶

(2) Analysis

Defendants have not challenged Plaintiff’s identification of the corresponding structure in the specification, at least as set forth in Plaintiff’s proposed construction. *See* Dkt. No. 110 at 28-29. Instead, Defendants challenge the sufficiency of that structure, arguing that because the structure amounts to a general-purpose computer, an algorithm is required but is absent. Defendants also argue that the *Katz* exception to the algorithm requirement does not apply

⁶ The *elcommerce* case was decided after the close of briefing in the above-captioned case. Plaintiff filed a notice of supplemental authority prior to the March 7, 2014 hearing. *See* Dkt. No. 118, 2/25/2014 Notice of Supplemental Authority Recently Issued by Federal Circuit.

because “determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message” is not analogous to functions such as “processing,” “receiving,” or “storing” that can be performed by any general-purpose computer without special programming. *See In re Katz*, 639 F.3d at 1316.

Plaintiff has argued that no algorithm is required, but Plaintiff submits that if an algorithm is required then the specification discloses what Plaintiff refers to as an “if-then-else algorithm” for performing the claimed function:

As AMP [(acknowledgement message processing)] module 310 receives an acknowledgment message from MTD module 302, it first determines whether the message is a data acknowledgment message or a probe acknowledgment message. If it is the former, then AMP module 310 indicates to DMP module 304 to forward to message transmitting unit 108 the next data message in memory storage unit 110 waiting to be delivered to that subscriber. If it is the latter, then AMP module 310 updates in memory storage unit 110 the location of mobile unit 200 and indicates to DMP module 304 to re-send the last data message to message transmitting unit 108.

‘428 Patent at 5:24-34. This disclosure relates to Figure 3, which is reproduced here:

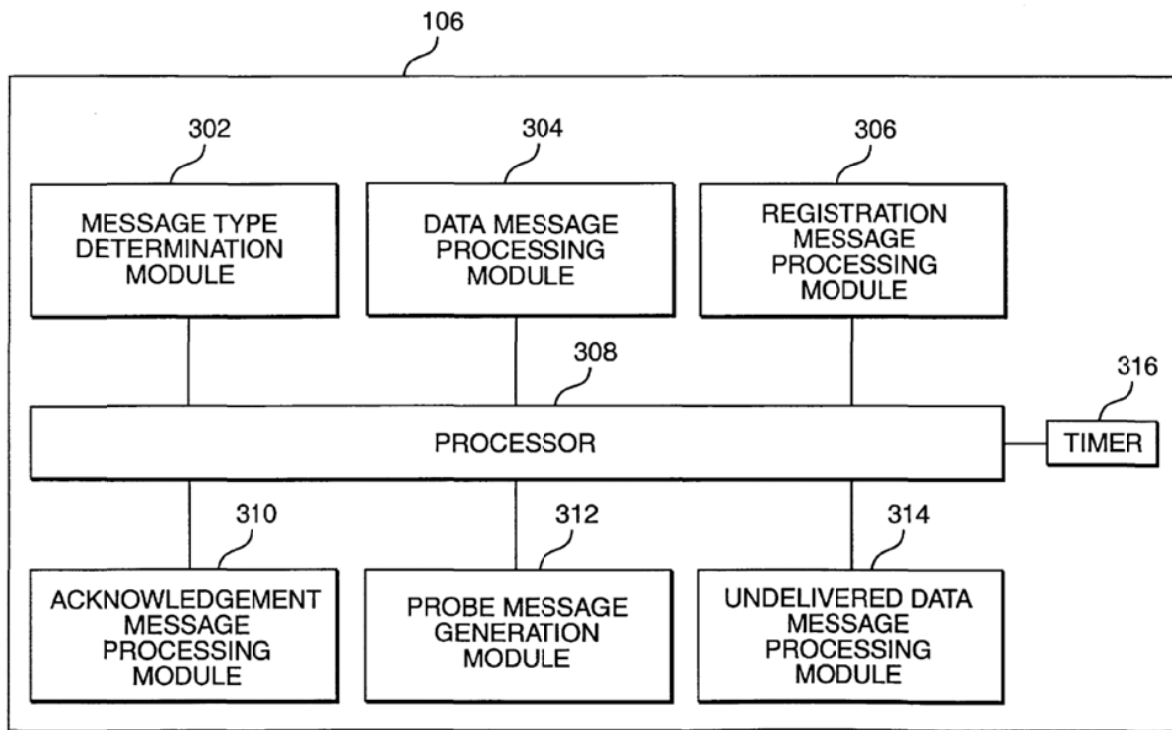


FIG.3

Plaintiff argues that “[a] PHOSITA [(person having ordinary skill in the art)] would recognize AMP module 310 as capable of determining the difference between a probe acknowledgement and data message acknowledgement ‘in accordance with conventional techniques.’” Dkt. No. 107-2 at 24 (quoting ‘428 Patent at 5:62) (emphasis omitted).

Also, as purported evidence of how a person of ordinary skill in the art would understand the ‘428 Patent, Plaintiff has cited disclosure in the related ‘946 Patent. *See* Dkt. No. 107-2 at 24-25; Dkt. No. 115 at 10. The ‘428 Patent incorporates the ‘946 Patent by reference. *See* ‘428 Patent at 1:36-39. The ‘946 Patent discloses:

Each mobile unit with transmit capability that has received a message in the immediately previous systemwide forward interval 2704 or the zonal forward interval 2708 will have an appropriate time slot for transmission scheduled in the systemwide response interval 2706, or the zonal reverse interval 2710, respectively. The timing circuit in the mobile transceiver unit determines the

assigned time slot for transmission. For example, if the mobile unit simply intends to transmit an acknowledgment signal, which indicates that the mobile unit has properly received the message from the network, an 8 bit preamble followed by the address of that mobile unit need only be transmitted and a 3 bit acknowledgment.

'946 Patent at 27:40-53; *see id.* at Fig. 27(A). Plaintiff explains that “the AMP module 310 may determine the ACK type based on when it received the ACK. As shown in FIG. 27(A) of the '946 Patent . . . , a probe ACK (with a proper address for a mobile unit) is expected during Systemwide Reverse Interval 2706 while a message ACK may be expected in Zonal Reverse Interval 2710.” Dkt. No. 107-2 at 24-25.

Title 35 U.S.C. § 112(f) provides: “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.” Further, “[t]he scope of a claim under [35 U.S.C.] section 112[(f)] . . . must be limited to structures *clearly linked or associated* with the claimed function in the specification or prosecution history and equivalents of those structures.” *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1219 (Fed. Cir. 2003) (emphasis added).

“[A] means-plus-function claim element for which the only disclosed structure is a general purpose computer is invalid if the specification fails to disclose an algorithm for performing the claimed function.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008); *see WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999) (“In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general

purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.”).

There is, however, an exception to the general rule requiring an algorithm. Specifically, when the corresponding structure is a general purpose computer, an algorithm is required *unless* the recited function can be achieved by any general purpose computer without special programming. *In re Katz*, 639 F.3d at 1316 (“Absent a possible narrower construction of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ . . . those functions can be achieved by any general purpose computer without special programming. As such, it was not necessary to disclose more structure than the general purpose processor that performs those functions.”); *accord Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1365 (Fed. Cir. 2012) (“In *In re Katz*, we held that ‘[a]bsent a possible narrower construction’ of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ the disclosure of a general-purpose computer was sufficient. . . . In other words, a general-purpose computer is sufficient structure if the function of a term such as ‘means for processing’ requires no more than merely ‘processing,’ which any general-purpose computer may do without any special programming.”) (citations omitted); *but see id.* (“It is only in the rare circumstances where any general-purpose computer without any special programming can perform the function that an algorithm need not be disclosed.”).

If an algorithm is required, that algorithm may be disclosed in any understandable form. *See Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1386 (Fed. Cir. 2011) (“Indeed, the mathematical algorithm of the programmer is not included in the specification. However, as precedent establishes, it suffices if the specification recites in prose the algorithm to be implemented by the programmer.”); *see also Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (noting that “a patentee [may] express th[e] algorithm in any

understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure”) (citation omitted); *TecSec, Inc. v. Int’l Bus. Machs. Corp.*, 731 F.3d 1336, 1348 (Fed. Cir. 2013) (discussing *Finisar*).

Nonetheless, the purported algorithm must provide a “step-by-step procedure” for accomplishing the claimed function and cannot “merely provide[] functional language.” *Ergo Licensing*, 673 F.3d at 1365; *see, e.g., Rotatable Techs. LLC v. Nokia Inc.*, No. 2:12-CV-265, 2013 WL 3992930, at *4 (E.D. Tex. Aug. 2, 2013) (Gilstrap, J.). Further, “[i]t is well settled that simply disclosing software, however, without providing some detail about the means to accomplish the function, is not enough.” *Function Media, LLC v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013) (citation and internal quotations and alterations omitted).

Claim 1 of the ‘428 Patent recites (emphasis added):

1. A network operations center for transmitting and receiving messages to and from a wireless mobile unit comprising:
 - means for transmitting messages to the mobile unit;
 - means for receiving acknowledgment messages from the mobile unit;
 - means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message;*
 - means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received; and
 - means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received.

As corresponding structure for the “means for determining . . .,” Plaintiff proposes: “acknowledgment message processing (AMP) module 310, and/or memory 110 and processor 308 and equivalents.” *See* ‘428 Patent at 4:61-5:34.

In some contexts, a person of ordinary skill in the art can interpret disclosure of an element in terms of what it does, without any description of its internal structure or operation, as sufficient corresponding structure. *See Telcordia Techs., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365,

1377 (Fed. Cir. 2010) (as to disclosure of “controllers” in the specification, finding that “the absence of internal circuitry in the written description does not automatically render the claim indefinite. . . . [C]laim definiteness depends on the skill level of an ordinary artisan. Therefore, the specification need only disclose adequate defining structure to render the bounds of the claim understandable to an ordinary artisan.”) (citations and internal quotation marks omitted).

Although Defendants argue that the disclosures cited by Plaintiff do not contain sufficient structure or any algorithm, Defendants have failed to present any evidence of the understanding of a person of ordinary skill in the art, such as through an expert declaration or expert testimony. Defendants have therefore failed to meet their burden of proving indefiniteness by clear and convincing evidence. *See elcommerce.com*, 2014 WL 685622, at *15 (“The burden was on SAP to prove its case, and in the absence of evidence provided by technical experts who meet the *Daubert* criteria there is a failure of proof. Attorney argument is not evidence.”); *see also id.* at *1, *12, *14; *but see id.* at *16 (Wallach, J., dissenting); *Noah Sys. v. Intuit Inc.*, 675 F.3d 1302, 1313-17, 1319 (Fed. Cir. 2012).

Defendants’ indefiniteness argument is therefore hereby expressly rejected. This rejection is without prejudice because the *elcommerce* decision was handed down after the close of claim construction briefing in the above-captioned case.

The Court accordingly hereby finds that for the **“means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message,”** the function is **“determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message,”** and the corresponding structure is **“acknowledgment message processing (AMP) module 310, and/or memory 110 and processor 308; and equivalents thereof.”**

D. “means for generating, upon power restoration to the transmitter, a registration message if a probe message has been received while the transmitter was powered off, said registration message being transmitted by said transmitter”

Plaintiff’s Proposed Construction	Defendants’
Function: “generating, upon power restoration to the transmitter, a registration message if a probe message has been received while the transmitter was powered off, said registration message being transmitted by said transmitter” Structure: “registration message generation module 404 and/or memory 212 and processor 406, and equivalents”	Indefinite

Dkt. No. 107-2 at 25; *see* Dkt. No. 110 at 26-30; Dkt. No. 116, Ex. A at 6. This term appears in Claim 4 of the ‘428 Patent. The parties agree that this is a means-plus-function term subject to 35 U.S.C. § 112(f). *See* Dkt. No. 107-2 at 25-26; Dkt. No. 110 at 27-30. Also, Defendants have not challenged Plaintiff’s proposal for the claimed function.

(1) The Parties’ Positions

Plaintiff argues that the specification sets forth adequate structure, in particular as illustrated in Figure 4. Dkt. No. 107-2 at 25-26.

Defendants respond:

[T]he [‘]428 Patent specification again inadequately provides only a “black box” description, reciting a “registration message generation (RMG) module 404” that “creates a registration message and forwards it to transmitter 202” after checking memory 212 for an indication that a probe message has been received when the transmitter 202 was powered off. [‘428 Patent] at 6:6-8, 6:41-47.

Dkt. No. 110 at 28. Defendants argue that “rather than disclose the required algorithm for th[is] term[], the specification impermissibly restates the function recited in the claim.” *Id.* at 29 (citing ‘428 Patent at 4:61-5:1, 5:59-65, 6:4-8 & 6:49-54).

Plaintiff replies that no algorithm is required because “[t]he claim terms at issue fall within the *Katz* exception because the functions contained in those terms are performable by a general-purpose computer.” Dkt. No. 115 at 10 (citing *In re Katz*, 639 F.3d at 1316).

Alternatively, Plaintiff cites its opening brief and argues that “[Plaintiff] demonstrates that the ‘428 Patent contains sufficient algorithms for these terms.” Dkt. No. 115 at 10.

At the March 7, 2014 hearing, Plaintiff argued that the corresponding structure is not a general-purpose computer. Plaintiff submitted that if Defendants contend otherwise, then they have failed to meet their burden of presenting expert testimony regarding how a person of ordinary skill in the art would interpret the specification, as required by the recent *elcommerce* case. *elcommerce.com*, 2014 WL 685622.

(2) Analysis

Relevant legal principles are discussed as to the “means for determining . . .” term, above.

Claim 4 of the ‘428 Patent recites (emphasis added):

4. A wireless mobile unit for receiving and transmitting messages from and to a network operations center comprising:
 - means for receiving data and probe messages from the network operations center;
 - a transmitter;
 - means for generating, upon receiving a data message, a data acknowledgment message, said data acknowledgment message being transmitted by said transmitter;
 - means for generating, upon receiving a probe message, a probe acknowledgment message, said probe acknowledgment message being transmitted by said transmitter;
 - means for powering the transmitter on and off;
 - means for determining whether a probe message has been received while said transmitter was powered off; and
 - means for generating, upon power restoration to the transmitter, a registration message if a probe message has been received while the transmitter was powered off, said registration message being transmitted by said transmitter.*

The specification discloses:

FIG. 4 shows a block diagram of controller 208 of mobile unit 200, in accordance with a preferred embodiment of the present invention. Preferably, controller 208 includes acknowledgment message generation (AMG) module 402, *registration message generation (RMG) module 404*, processor 406, message type determination (MTD) module 408, probe message processing (PMP) module 410, and data message processing (DMP) module 412.

* * *

RMG module 404 generates registration messages. In a preferred embodiment of the present invention, as transmitter 202 is powered on, RMG module 404 checks memory 212 for an indication that a probe message has been received when transmitter 202 is off. If such an indication exists, then RMG module 404 creates a registration message and forwards it to transmitter 202.

In a preferred embodiment, modules 402, 404, 408, 410, and 412 comprise software or microcode and any hardware necessary to effect the execution of that software or microcode in accordance with conventional techniques. In an alternative embodiment, modules 402, 404, 408, 410, and 412 can be implemented in electronic logic circuitry. Processor 406 is preferably any processor capable of executing the foregoing software or microcode and performing the processing functions described herein.

* * *

FIG. 10 shows a flow diagram depicting the operation of mobile unit 200 in registering upon power restoration to transmitter 202, in accordance with a preferred embodiment of the present invention. Transmitter 202 is turned back on, for example, when a subscriber traveling on an airplane lands (step 1000), RMG module 404 checks memory 212 for control information indicating that mobile unit 200 has received a probe message when transmitter 202 is off. If such an indication exists, then RMG module 404 sends a registration message through transmitter 202 to network operations center 100 to update the current location of mobile unit 200 (step 1002).

'428 Patent at 6:4-11, 6:42-57 & 8:63-9:7 (emphasis added). Figures 4 and 10 are reproduced here:

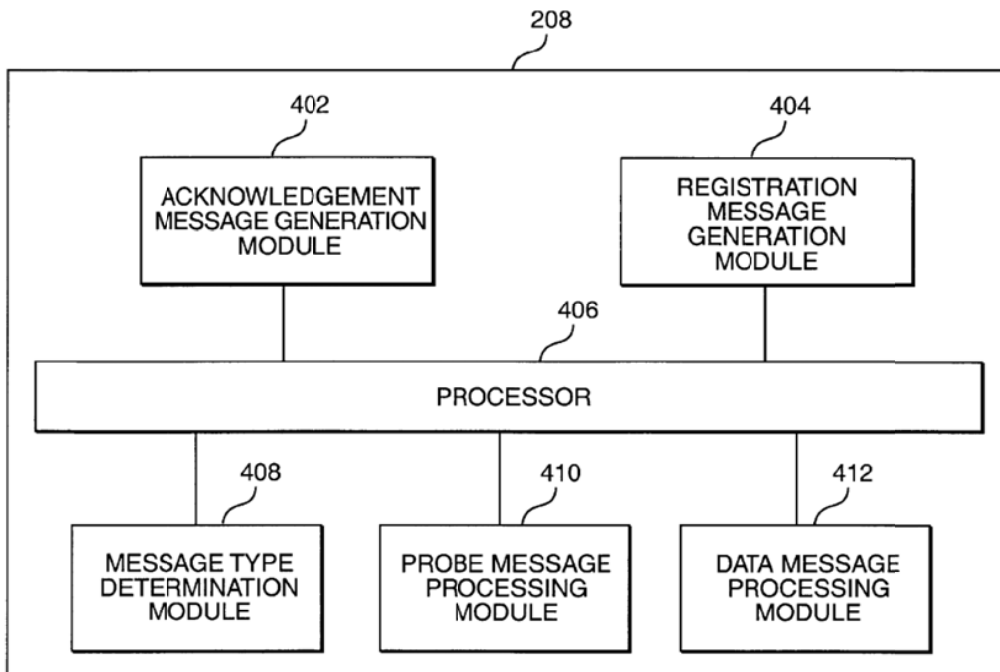


FIG. 4

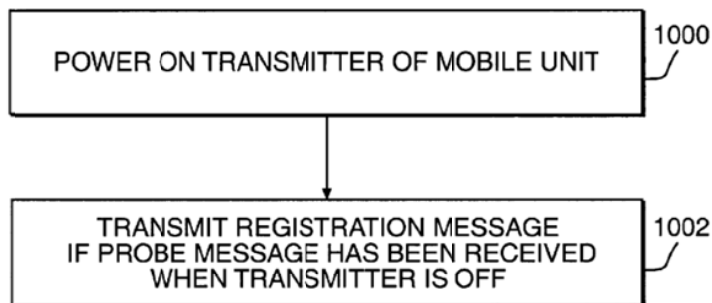


FIG. 10

As corresponding structure for the “means for generating . . .,” Plaintiff proposes: “registration message generation module 404 and/or memory 212 and processor 406, and equivalents.” *See* ‘428 Patent at 6:42-57. Defendants have not challenged Plaintiff’s identification of the corresponding structure in the specification, at least as set forth in Plaintiff’s proposed construction. *See* Dkt. No. 110 at 28-29. Instead, Defendants challenge the sufficiency

of that structure, arguing that because the structure amounts to a general-purpose computer, an algorithm is required but is absent.

For the same reasons discussed above as to the “means for determining . . .,” although Defendants argue that the disclosures cited by Plaintiff do not contain sufficient structure or any algorithm, Defendants have failed to present any evidence of the understanding of a person of ordinary skill in the art, such as through an expert declaration or expert testimony. Defendants have therefore failed to meet their burden to prove indefiniteness by clear and convincing evidence. *See elcommerce.com*, 2014 WL 685622, at *15; *but see Noah Sys.*, 675 F.3d at 1313-17, 1319.

Defendants’ indefiniteness argument is therefore hereby expressly rejected. This rejection is without prejudice because the *elcommerce* decision was handed down after the close of claim construction briefing in the above-captioned case.

The Court accordingly hereby finds that for the **“means for generating, upon power restoration to the transmitter, a registration message if a probe message has been received while the transmitter was powered off, said registration message being transmitted by said transmitter,”** the function is **“generating, upon power restoration to the transmitter, a registration message if a probe message has been received while the transmitter was powered off, said registration message being transmitted by said transmitter,”** and the corresponding structure is **“registration message generation module 404 and/or memory 212 and processor 406; and equivalents thereof.”**

E. “means for powering the transmitter on and off”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Function: “powering the transmitter on and off” Structure: “transmitter power switch 504; or mobile unit power switch 508, and equivalents”	Function: “powering the transmitter on and off independently of the receiver” Structure: “transmitter power switch 504”

Dkt. No. 107-2 at 29; Dkt. No. 110 at 6; Dkt. No. 116, Ex. A at 5. This term appears in Claim 4 of the ‘428 Patent. The parties agree that this is a means-plus-function term subject to 35 U.S.C. § 112(f). Dkt. No. 107-2 at 29-30; *see* Dkt. No. 110 at 6-7.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary construction for this disputed term: “Function: ‘powering the transmitter on and off’; Structure: ‘transmitter power switch 504; and equivalents thereof.’” At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary construction.

The Court therefore hereby finds that for the “**means for powering the transmitter on and off,**” the function is “**powering the transmitter on and off,**” and the corresponding structure is “**transmitter power switch 504; and equivalents thereof.**”

F. Additional Means-Plus-Function Terms

Defendants have also submitted:

The deficiencies identified above apply to all of the means-plus-function terms identified in Exhibit 19.[fn 23] Accordingly, asserted claims 1, 2, and 4 of the [‘]428 Patent are invalid as indefinite.

[fn 23: The term “means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received” corresponds to, *inter alia*, black-box element “undelivered data message processing (UDMP) module 314.” [‘]428 Patent[] at 5:50-53. The term “means for generating, upon receiving a data message, a data acknowledgment message, said data acknowledgment message

being transmitted by said transmitter” corresponds to, *inter alia*, black-box element “acknowledgement message generation (AMG) module 402.” *Id.* at 6:15-19, 6:37-41. The term “means for generating, upon receiving a probe message, a probe acknowledgment message, said probe acknowledgment message being transmitted by said transmitter” corresponds to, *inter alia*, black-box element “acknowledgement message generation (AMG) module 402.” *Id.* at 6:19-21, 6:27-32, 6:37-41. The term “means for determining whether a probe message has been received while said transmitter was powered off” corresponds to, *inter alia*, black-box element “registration message generation (RMG) module 404.” *Id.* at 6:41-46. The term “means for automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit” corresponds to, *inter alia*, black-box element “registration message processing (RMP) module 306.” *Id.* at 5:54-59.

Dkt. No. 110 at 30 & n.23; *see* Dkt. No. 116, Ex. A at 3-6.

Defendants’ assertions of indefiniteness as to these additional means-plus-function terms suffer from the same defect discussed above as to the “means for determining . . .” and “means for generating . . .” terms. Specifically, Defendants have failed to present any evidence of the understanding of a person of ordinary skill in the art, such as through an expert declaration or expert testimony. Defendants have therefore failed to meet their burden to prove indefiniteness by clear and convincing evidence. *See elcommerce.com*, 2014 WL 685622, at *15; *but see Noah Sys.*, 675 F.3d at 1313-17, 1319.

Defendants’ indefiniteness arguments are therefore hereby expressly rejected. This rejection is without prejudice because the *elcommerce* decision was handed down after the close of claim construction briefing in the above-captioned case.

The Court accordingly hereby construes these additional means-plus-function terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
<p>“means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received” (‘428 Patent, Claim 1)</p>	<p>Function: “marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgement message is received”</p> <p>Structure: “undelivered data message processing module 314 and/or memory 110 and processor 308; and equivalents thereof”</p>
<p>“means for generating, upon receiving a data message, a data acknowledgment message, said data acknowledgment message being transmitted by said transmitter” (‘428 Patent, Claim 4)</p>	<p>Function: “generating, upon receiving a data message, a data acknowledgment message, said data acknowledgement message being transmitted by said transmitter”</p> <p>Structure: “acknowledgement message generating module 402 and/or memory 212 and processor 406; and equivalents thereof”</p>
<p>“means for generating, upon receiving a probe message, a probe acknowledgment message, said probe acknowledgment message being transmitted by said transmitter” (‘428 Patent, Claim 4)</p>	<p>Function: “generating, upon receiving a probe message, a probe acknowledgement message, said probe acknowledgement message being transmitted by said transmitter”</p> <p>Structure: “acknowledgement message generating module 402 and/or memory 212 and processor 406; and equivalents thereof”</p>
<p>“means for determining whether a probe message has been received while said transmitter was powered off” (‘428 Patent, Claim 4)</p>	<p>Function: “determining whether a probe message has been received while said transmitter was powered off”</p> <p>Structure: “registration message generating module 404 and/or memory 212 and processor 406; and equivalents thereof”</p>

<p>“means for automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit” (‘428 Patent, Claim 2)</p>	<p>Function: “automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit”</p> <p>Structure: “message transmitting unit 108; and equivalents thereof”</p>
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CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,894,506

The ‘506 Patent is titled “Method and Apparatus for Generating and Communicating Messages Between Subscribers to an Electronic Message Network.” The ‘506 Patent issued on April 13, 1999, and bears a filing date of September 5, 1996. In general, the ‘506 Patent relates to conveying so-called “canned” messages by using codes. The Abstract of the ‘506 Patent states:

An electronic messaging network comprises a network operation center and plural message terminals, all including memories for storing corresponding files of canned messages and associated message codes. To send a canned message, a calling party selects a canned message stored at one message terminal and transmits the assigned message code to a receiving party at another message terminal via the network operation center. The receiving terminal retrieves the selected canned message from its memory using the received message code for display to the receiving party. Files of canned responses and associated response codes may also be stored in the memories at the terminals and network operation center to allow the exchange of selected canned response options in conjunction with canned messages to be in response code form.

A. “canned message” and “canned multiple response options”

“canned message” (Claim 8)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning. <i>Alternatively:</i> “a predefined message”	“previously stored textual word or phrase” <i>Alternatively:</i> “previously stored sequence of text” or “previously stored sequence of characters”
“canned multiple response options” (Claim 12)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning. <i>Alternatively:</i> “predefined response that is available for user selection” ⁷	“previously stored response to canned message”

Dkt. No. 107-2 at 10; Dkt. No. 110 at 9-10; Dkt. No. 116, Ex. A at 9 & 13.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary constructions for these disputed terms: “canned message” means “predefined message”; and “canned multiple response options” means “predefined responses to a canned message.” At the March 7, 2014 hearing, all parties agreed to the Court adopting its preliminary construction of “canned multiple response options.” The parties did not reach agreement as to “canned message.” The following discussion therefore addresses only the term “canned message.”

⁷ Plaintiff previously proposed: “predefined response messages available for user selection.” Dkt. No. 107-2 at 10.

(1) The Parties' Positions

Plaintiff argues that Defendants' proposal is too narrow because "the '506 Patent does not prohibit a message from being expressed by characters or symbols" and because "the Specification contemplates the canned messages being 'updated.'" Dkt. No. 107-2 at 10. "Finally," Plaintiff argues, "the storage of responses and canned messages is clear from the claim language itself." *Id.* at 11.

Defendants respond that "[t]he method disclosed in the [']506 Patent is predicated on a user selecting an appropriate textual message from a list already stored at the user's messaging terminal." Dkt. No. 110 at 9 (citing '506 Patent at 1:57-60 & 3:44-54). As to Plaintiff's objection to Defendants' proposed construction, Defendants respond that "a textual word or phrase certainly includes characters and may include symbols." *Id.* Alternatively, Defendants submit that "[i]f [Plaintiff's] objection is simply to the inclusion of 'word or phrase,' Defendants would be willing to accept 'previously stored sequence of text' in the alternative." *Id.* at 9 n.9. Finally, Defendants respond that "nothing in Defendants' construction prohibits the list of stored canned messages from being modified or updated." *Id.* at 9-10.

Plaintiff replies that "Defendants, for the first time in their response, add that their construction could also include 'symbols,' but do not explain the meaning of 'symbol' or concede that a symbol would cover an emoticon."⁸ This construction would not be helpful to the jury, as it would necessitate further claim construction over the meaning of the words of the construction." Dkt. No. 115 at 3.

At the March 7, 2014 hearing, Defendants submitted, as another alternative proposed construction: "previously stored sequence of characters."

⁸ An example of an "emoticon" is the well-known smiley face: ":-)".

(2) Analysis

Claims 8 and 12 of the '506 Patent recite (emphasis added):

8. A method of communicating messages between subscribers to an electronic messaging network, comprising the steps of:
 maintaining, at a network operation center, a first file of *canned messages* and message codes respectively assigned to the *canned messages*;
 maintaining at a first terminal of a first subscriber, a second file of *canned messages* and message codes corresponding to the first file;
 maintaining, at a second terminal of a second subscriber, a third file of *canned messages* and message codes corresponding to the first file;
 selecting an appropriate *canned message* from the second file for transmission to the second terminal;
 sending the message code assigned to the selected *canned message* to the network operation center;
 relaying the message code assigned to the selected *canned message* from the network operation center to the second terminal;
 retrieving the selected *canned message* from the third file using the assigned message code received from the network operation center; and
 displaying the selected *canned message* retrieved from the third file.

* * *

12. The method defined in claim 11, further including the steps of:
 maintaining at the network operation center, a fourth file of *canned multiple response options* and response codes respectively assigned to the *canned multiple response options*;
 maintaining at the first terminal, a fifth file of *canned multiple response options* and response codes corresponding to the fourth file; and
 maintaining, at the second terminal, a sixth file of *canned multiple response options* and response codes corresponding to the fourth file;
 wherein the selecting step further includes
 the step of selecting appropriate *canned multiple response options* from the fifth file;
 the sending step further includes the step of sending the response codes assigned to the selected *multiple response options* together with the message code to the network operation center;
 the relaying step further includes the step of relaying the message and response codes from the network operation center to the second terminal; and
 the retrieving step further includes the step of retrieving the selected *canned multiple response options* from the sixth file using the assigned response codes received from the network operation center.

As a threshold matter, Defendants' proposal of "previously stored" is redundant of other claim language, such as the recital that canned messages and canned multiple response options are stored in "files." Defendants' proposals in that regard are therefore hereby expressly rejected.

As to the proper construction, the '506 Patent consistently refers to canned messages as being "text" or "phrases," including in the Summary of the Invention:

It is accordingly a principle object of the present invention to provide an improved electronic messaging network and method, wherein communications link capacity is conserved by transmitting certain messages with an improved degree of message compression.

Particularly in the case of radio paging, many paging messages consist[] of a relatively small number of common *phrases*, such as "I am on the way home", "I am working late", "Can we meet for lunch", etc. This being the case, such commonly used *phrases* can be treated as "canned" messages that can be replaced by short message codes as simple as, for example, one or several *ASCII* [(American Standard Code for Information Interchange)] *characters*.

'506 Patent at 1:38-49 (emphasis added). The specification likewise discloses:

The calling party browses through the file to determine if the *text of any of the canned messages* is appropriate to convey the particular message that the calling party wishes to send to the receiving party.

Id. at 3:50-54 (emphasis added); *see id.* at 4:4-5 ("I am on my way home" described as "canned message"); *see also id.* at 4:15-16, 4:56-59 & 5:24-26 (similar).

NOC [(network operations center)] 12 determines whether the designated receiving party terminal can accept the canned message in code form, i.e., as received from the sending party terminal, or whether the canned message must be transmitted in *full text* to the receiving party terminal (step 56 [in Figure 3]).

Id. at 6:7-12 (emphasis added); *see id.* at 6:38-41 ("The retrieved canned message, response options, and parameters, if any, are *displayed in text form* for viewing by the receiving party terminal (step 74 [in Figure 4]).") (emphasis added).

A coder/decoder 124 *encodes text messages* transmitted by the terminal to NOC 12 and *decodes text messages* received from NOC, including selected response options in *text code* received from a receiving terminal 14.

Id. at 7:56-60 (emphasis added).

Finally, Claim 1 of the '506 Patent recites steps of (emphasis added): “determining whether the second terminal can receive the *canned message* in a *text form or message code form*”; and “communicating the selected *canned message* to the second terminal in either *message code form or text code form* in response to the determination.” *See Phillips*, 415 F.3d at 1314 (“Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.”).

These consistent references to text weigh in favor of a construction that excludes, for example, photographs or videos. *See Retractable*, 653 F.3d at 1305 (“In reviewing the intrinsic record to construe the claims, we strive to capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention.”); *see also Nystrom*, 424 F.3d at 1144-45 (construing term “board” to mean “wood cut from a log” in light of the patentee’s consistent usage of the term; noting that patentee “is not entitled to a claim construction divorced from the context of the written description and prosecution history”); *Am. Piledriving Equip.*, 637 F.3d at 1333 (“[T]he consistent reference throughout the specification to the ‘eccentric weight portion’ as structure extending from the face of the gear makes it apparent that it relates to the invention as a whole, not just the preferred embodiment.”).

Moreover, Plaintiff argued in its opening brief that (emphasis added): “A PHOSITA [(person having ordinary skill in the art)] would understand the plain and ordinary meaning of ‘canned’ to be ‘predefined’ and ‘message’ to be ‘a *sequence of characters* used to convey

information or data.” Dkt. No. 107-2 at 10 (quoting Dkt. No. 107, Ex. 1, *Newton’s Telecom Dictionary* 373 (11th ed. 1996)) (“A sequence of characters used to convey information or data. In data communications, messages are usually in an agreed format with a heading which establishes the address to which the message will be sent and the text which is the actual message and maybe some information to signify the end of the message.”); see *Phillips*, 415 F.3d at 1318 (“Because dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention.”).

Further, Defendants acknowledge that “a textual word or phrase certainly includes characters and may include symbols.” Dkt. No. 110 at 9.

The last remaining issue, posed by Plaintiff, is whether the word “text” or the word “symbol” would “exclude the accused ‘emoticons.’” See Dkt. No. 115 at 3. The ‘506 Patent does not discuss emoticons, and Plaintiff has not identified any evidence that would warrant referring to emoticons in the Court’s construction or making any findings at this time regarding emoticons. On balance, Plaintiff has raised a factual issue of infringement rather than a legal issue of claim construction. See *PPG Indus.*, 156 F.3d at 1355 (noting that “the task of determining whether the construed claim reads on the accused product is for the finder of fact”). As a result, no construction is required as to “symbols” or “emoticons.”

Instead, the Court uses the word “characters” because that word is used by the technical dictionary quoted in Plaintiff’s opening brief, as discussed above, and is consistent with the intrinsic evidence, such as the above-quoted disclosure regarding ASCII characters. The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“canned message”	“predefined sequence of characters”
“canned multiple response options”	“predefined responses to a canned message”

B. “message code” and “response code”

“message code” (Claim 8)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“code that is assigned to a canned message that requires less data to transmit than the message itself”
“response code” (Claim 12)	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning.	“code that is assigned to a canned response that requires less data to transmit than the response itself”

Dkt. No. 107-2 at 11; Dkt. No. 110 at 10; Dkt. No. 116, Ex. A at 9 & 13.

Shortly before the start of the March 7, 2014 hearing, the Court provided the parties with the following preliminary construction for these disputed terms: “message code” and “response code” have their plain meaning. At the March 7, 2014 hearing, the parties did not reach agreement as to any construction, but all parties nonetheless agreed that a “message code” is something that corresponds to a “canned message.”

Plaintiff argues that “[w]hile it is an objective of the invention to transmit ‘certain messages with an improved degree of message compression,’ the claims are not so limited.”

Dkt. No. 107-2 at 11-12 (quoting ’506 Patent at 1:41-42). Defendants respond that “[Plaintiff’s]

proposed construction of plain meaning ignores the context provided in the [‘]506 Patent and encompasses the prior art character coding that the [‘]506 Patent was trying to improve upon.” Dkt. No. 110 at 11. Plaintiff’s reply brief does not address “message code” or “response code.” See Dkt. No. 115.

Claims 8 and 12 of the ‘506 Patent are set forth in the discussion of “canned message” and “canned multiple response options,” above. The Summary of the Invention discloses:

It is accordingly a *principle object of the present invention* to provide an improved electronic messaging network and method, wherein *communications link capacity is conserved* by transmitting certain messages with an improved degree of *message compression*.

Particularly in the case of radio paging, many paging messages consist[] of a relatively small number of common phrases, such as “I am on the way home”, “I am working late”, “Can we meet for lunch”, etc. This being the case, such commonly used phrases can be treated as “canned” messages that can be replaced by *short message codes* as simple as, for example, one or several ASCII characters.

The present invention takes advantage of this fact by providing, *in accordance with one preferred embodiment*, a method of communicating messages between subscribers of an electronic messaging network, comprising the steps of maintaining, at a network operation center, a first file of canned messages individually retrievable using unique, *abbreviated message codes* respectively assigned to the canned messages

‘506 Patent at 1:38-57 (emphasis added).

Assume, for example, that the canned message selected by the calling party in step 26 [in Figure 2] is “I am on my way home”. This canned message does not call for the addition of parameters. The associated *code* for this canned message, may be, for example, the number 36 in ASCII code.

Id. at 4:4-8 (emphasis added).

On balance, although reducing the amount of data necessary to transmit a message is desirable and is disclosed as an “object of the present invention,” neither the claims nor the specification contain any definitive statement that would warrant importing such a limitation into

the claims. *See E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003) (“The 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.”) (footnote omitted); *see also Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1345 (Fed. Cir. 2008) (discussing *E-Pass*). Defendants’ proposals of “requir[ing] less data to transmit” are therefore hereby expressly rejected.

Finally, Claims 8 and 12 of the ‘506 Patent recite “message codes . . . assigned to the canned messages” and “response codes . . . assigned to the canned multiple response options,” as quoted above. Defendants’ proposals of “code that is assigned to a canned message” and “code that is assigned to a canned response” are therefore hereby expressly rejected as redundant and unnecessary.

The Court having expressly rejected Defendants’ proposed constructions, and the parties having agreed at the March 7, 2014 hearing that a “message code” is something that corresponds to a “canned message,” as noted above, no further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207. The Court therefore hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
“message code”	Plain meaning
“response code”	Plain meaning

CONSTRUCTION OF DISPUTED TERMS IN U.S. PATENT NO. 5,915,210

The '210 Patent is titled "Method and System for Providing Multicarrier Simulcast Transmission." The '210 Patent issued on June 22, 1999, and bears a filing date of July 24, 1997. The '210 Patent is a continuation of a continuation of the '403 Patent. The Abstract of the '210 Patent states:

A two-way communication system for communication between a system network and a mobile unit. The system network includes a plurality of base transmitters and base receivers include[d] in the network. The base transmitters are divided into zonal assignments and broadcast in simulcast using multi-carrier modulation techniques. The system network controls the base transmitters to broadcast in simulcast during both systemwide and zone boundaries to maximize information throughout [*sic*, throughput]. The preferred mobile unit includes a noise detector circuit to prevent unwanted transmissions. The system network further provides an adaptive registration feature for mobile units which controls the registration operation by the mobile units to maximize information throughout [*sic*, throughput].

Disputed terms appearing in the '210 Patent also appear in other patents-in-suit and have been addressed in the discussion sections corresponding to those other patents-in-suit, namely the '403 Patent and the '946 Patent. As noted above, the parties' briefing, as well as their arguments at the March 7, 2014 hearing, have indicated that the parties agree that disputed claim terms appearing in more than one patent should be given the same meaning for all such patents.

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 2nd day of May, 2014.


ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

U.S. Patent No. 5,590,403	
<u>Term</u>	<u>Parties' Agreement</u>
“zone[s]”	“portion[s] of a region of space”
“plurality of transmitters”	“at least two transmitters”
“plurality of base transmitters”	“at least two base transmitters”
“plurality of zones”	“at least two zones”
U.S. Patent No. 5,659,891	
<u>Term</u>	<u>Parties' Agreement</u>
“single mask-defined, bandlimited channel”	“a channel confined to a frequency range”
U.S. Patent No. 5,754,946	
<u>Term</u>	<u>Parties' Agreement</u>
“means for receiving said specified portion retransmitted from the communications network and for displaying the received specified portion on the display” (Claim 1)	Function: “receiving said specified portion retransmitted from the communications network and displaying the received specified portion on the display” Structure: “receiver 1506, display 1514; and equivalents thereof” ⁹
“means for transmitting radio frequency signals containing a message to the mobile unit” (Claim 7)	Function: “transmitting radio frequency signals containing a message to the mobile unit” Structure: “base transmitter 612, base transmitter 614, base transmitter 1300, or base transmitter 1400; and equivalents thereof”

⁹ In accordance with this Court’s standard practice, the Court includes “equivalents” as part of the corresponding structure for means-plus-function terms. *See* 35 U.S.C. § 112(f).

<p>“means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission”</p> <p>(Claim 7)</p>	<p>Function: “receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission”</p> <p>Structure: “base receiver 628; base receiver 630; base receiver 632; base receiver 634; analog base receiver (FIG. 18(A)); digital base receiver (FIG. 18(B)); or base receiver (FIG. 19); and equivalents thereof”</p>
<p>U.S. Patent No. 5,786,748</p>	
<p>No agreed terms</p>	
<p>U.S. Patent No. 5,809,428</p>	
<p><u>Term</u></p>	<p><u>Parties’ Agreement</u></p>
<p>“means for transmitting messages to the mobile unit”</p> <p>(Claim 1)</p>	<p>Function: “transmitting messages to the mobile unit”</p> <p>Structure: “message transmitting unit 108; and equivalents thereof”</p>
<p>“means for receiving acknowledgment messages from the mobile unit”</p> <p>(Claim 1)</p>	<p>Function: “receiving acknowledgment messages from the mobile unit”</p> <p>Structure: “message receiving unit 104; and equivalents thereof”</p>
<p>“means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment is received”</p> <p>(Claim 1)</p>	<p>Function: “transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment is received”</p> <p>Structure: “message transmitting unit 108; and equivalents thereof”</p>

<p>“means for receiving registration messages from the mobile unit” (Claim 2)</p>	<p>Function: “receiving registration messages from the mobile unit” Structure: “message receiving unit 104; and equivalents thereof”</p>
<p>“means for receiving data and probe messages from the network operations center” (Claim 4)</p>	<p>Function: “receiving data and probe messages from the network operations center” Structure: “receiver 204; and equivalents thereof”</p>
<p>U.S. Patent No. 5,894,506</p>	
<p><u>Term</u></p>	<p><u>Parties’ Agreement</u></p>
<p>“means for retrieving the file of canned messages and the file of canned multiple response options from the memory” (Claim 19)</p>	<p>Function: “retrieving the file of canned messages and the file of canned multiple response options from the memory” Structure: “CPU 110, ROM 112 (including stored application program for controlling terminal operation), and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof”</p>
<p>“means for selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal” (Claim 19)</p>	<p>Function: “selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal” Structure: “terminal keypad 126; or a mouse; or a cursor; and equivalents thereof”</p>

<p>“means for retrieving the file of canned messages and message codes from the memory”</p> <p>(Claim 21)</p>	<p>Function: “retrieving the file of canned messages and message codes from the memory”</p> <p>Structure: “CPU 110, ROM 112 (including stored application program for controlling terminal operation), and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof”</p>
<p>“means for selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message”</p> <p>(Claim 21)</p>	<p>Function: “selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message”</p> <p>Structure: “terminal keypad 126; or a mouse; or a cursor; and equivalents thereof”</p>
<p>U.S. Patent No. 5,915,210</p>	
<p><u>Term</u></p>	<p><u>Parties’ Agreement</u></p>
<p>“plurality of carrier signals”</p> <p>(Claims 1, 10 & 19)</p>	<p>“at least two carrier signals”</p>

Dkt. No. 107 at App’x 1; Dkt. No. 116 at Ex. A.