

**United States Patent And Trademark Office  
Before The Patent Trial And Appeal Board**

**ZTE Corporation And ZTE (USA) Inc.**

**And**

**Microsoft Corporation,  
Petitioners**

**v.**

**IPR Licensing, Inc.  
Patent Owner**

**Hearing Presentation By  
Patent Owner IPR Licensing, Inc.**

**May 21, 2015**

**Case IPR2014-00525  
Patent 8,380,244**

**IPR Licensing, Inc.  
Exhibit 2024  
ZTE Corp v. IPR Licensing, Inc.  
IPR2014-00525**

# Key Distinctions Over Prior Art

**Jawanda says nothing about physical channels ...  
Jawanda teaches using a standard cellular connection**

Response at 10

**In the cellular standards at the time of the invention,  
the base station, not the subscriber unit, selected  
the channels**

Response at 10

**Furthermore, in the then-existing cellular standards,  
including GPRS, there was no notion of a separate  
logical connection that was maintained without the  
corresponding physical connection**

Response at 11

# Prosecution History Key Events

# Examiner Expressly Considered Jawanda and "Communication Session"

## Office Action Summary

Jawanda teaches a dual mode phone that uses a network access arbitrator that provides seamlessly handoff transfer of datagrams from WWAN connection (i.e. cellular network) to WLAN connection, WHILE maintaining WWAN connection (see step 122 in figure 4, abstract, col. 3 lines 1-27, col. 3 line 66 – col. 4 line 19, col. 5 lines 20-42). Jawanda even teaches seamlessly handoff transfer of datagrams from WLAN connection to WWAN connection WHILE maintaining WLAN connection (see step 132 in figure 4, col. 5 line 62 – col. 6 line 20). Jawanda is extremely clear in that the present invention provides an improved method and system for wireless data communication in which transfer of datagrams may be seamlessly handed off between multiple concurrent wireless data connections while maintaining an application-level session (col. 6 lines 11-20)..

\* \* \*

incorporate the software network arbitrator as taught by Jawanda in order to maintain a communication session with the WWAN (i.e. first wireless network such as CDMA) WHILE communication datagrams (i.e. packet data) with the WLAN as disclosed by Jawanda which ultimately provides for seamless roaming between wireless communication networks.

Ex. 2001 at 8

# Examiner Discussed Jawanda With Patentee

## REPLY PURSUANT TO 37 C.F.R. §1.111

As discussed with the Examiner during the April 11, 2012 telephonic interview, Sainton, Lemilainen, and Jawanda, alone or in combination, fail to teach or suggest “a processor configured to maintain a communication session with the cellular wireless network in an absence of the plurality of assigned physical channels while the IEEE 802.11 transceiver communicates packet data with the IEEE 802.11 wireless local area network,” as claimed in claim 1. For at least this reason, claim 1 is believed to be patentable over the combination of Sainton, Lemilainen, and Jawanda.

Ex. 2001 at 34-35

# Examiner Allowed Claims Over Jawanda

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	12/615,098	GORSUCH, THOMAS E.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BARRY TAYLOR	2617	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to T.D. 4/20/2012.
2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
3.  The allowed claim(s) is/are 1,4-11 and 14-48.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_ .
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF

# **Agreed Construction of Assigned Physical Channels**

# Petitioner's Proposed Construction For "Assigned Physical Channels"

## SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

	ZTE
plurality of	<u>plurality of physical</u>
assigned	<u>channels available for the</u>
physical	<u>subscriber unit to select for</u>
channels	<u>use</u>

Petition at 10

¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent)

7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains

Petition at 11



# Patent Owner Agrees With This Construction

## **PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244**

Patent Owner agrees with ZTE that the relevant constructions from the Delaware Litigation are correct, and should be applied in this proceeding.

The term “assigned physical channels” was properly construed as “physical channels available for the subscriber unit to select for use.” Ex. 2009 (Markman

Response at 13

Before SALLY C. MEDLEY, MIRIAM L. QUINN, and  
BEVERLY M. BUNTING, Administrative Patent Judges.

PATENT OWNER'S RESPONSE TO PETITION FOR  
*INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

cellular network in an absence of the plurality of assigned physical channels.”

Patent Owner agrees with ZTE that the relevant constructions from the Delaware Litigation are correct, and should be applied in this proceeding.

The term “assigned physical channels” was properly construed as “physical channels available for the subscriber unit to select for use.” Ex. 2009 (Markman

# Construction of “Assigned Physical Channels”

## DECLARATION OF DR. WAYNE E. STARK



A District Court judge has concluded, and Dr. Bims and I both agree, that these “assigned physical channels” are cellular physical channels that are available for the subscriber unit to select for use. *See* ZTE Ex. 1002 (Bims Decl.) at ¶¶ 95-100; *Pet.* at 9-10.

Ex. 2005 (Stark Decl.) at ¶32

# Construction of “Assigned Physical Channels”

**DECLARATION OF DR. HARRY BIMS IN SUPPORT OF  
THE PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,380,244**



Term	ZTE’s Position Case No. 13-cv-00009-RGA
[a] plurality of assigned physical channels	<u>[a] plurality of physical channels available for the subscriber unit to select for use</u>

Ex. 1002 (Bims Decl.) at ¶96

“release,” and “allocate” are unclear, and in my opinion, ZTE’s proposed constructions for these terms properly capture the teaching of the 244 patent in light of the specification and of knowledge of a person having ordinary skill in the art at the time of the 244 patent. Further,

Ex. 1002 (Bims Decl.) at ¶97

# Construction of “Assigned Physical Channels”

## PETITIONERS’ REPLY TO PATENT OWNER’S RESPONSE

The parties agree that the claims correspond to a two-step process in which channels are first made available (assigned) and then they are selected for use (allocated). Pet. 9-13; Ex. 1002 (Bims Decl.), ¶¶ 97-98; Ex. 2005 (Stark Decl.), ¶ 70; *see* Ex. 1025 (Stark Tr.), at 31:14-16. Claim 1 describes the result of the first

Reply at 3



In *InterDigital Communications, Inc. v. ZTE Corp.*, Civ. Action No. 1:13-cv-0009-RGA (the “District Court Case”) the District Court judge found that the “assigned physical channels” are “physical channels available for the subscriber unit to select for use.” Ex. 2009 (Markman Op.) at 14-15. As the District Court noted, the defendants, including ZTE, specifically argued that channels are made available for use, and “a subset of those available channels are selected for use” by the subscriber unit. *Id.* at 15. The District Court therefore construed the claims to

Ex. 2005 (Stark Decl.) at ¶33

## MEMORANDUM OPINION

points in the patent's specification and claims. (D.I. 140 at 83). The Defendants argue that the specification teaches that “a bandwidth management function that *makes channels available for use* [assigns channels], and that a subset of those available channels are *selected for use* [allocated] to send data.” *Id.* at 84 (emphasis and brackets in original).

\* \* \*

and do not appear to be used interchangeably. Therefore the Court finds that the Defendants' constructions accurately capture the proper scope of the various claim terms.

Ex. 2009 (Markman Op.) at 15-16

# The “Subscriber Unit Of The Present Invention” Selects The Physical Channels

## DECLARATION OF DR. WAYNE E. STARK



34. Notably, the specification teaches that a “subscriber unit 101 incorporating the features of the present invention” is shown in Figure 6. This subscriber unit of “the present invention” includes the “bandwidth management function 134 [that] is responsible for allocating [i.e., selecting] ... CDMA radio channels 160 as required.” See ZTE Ex. 1001 (’244 Patent) at 9:64-66. In other words, the specification makes clear that the subscriber unit, through the bandwidth management function selects physical channels for use.

Ex. 2005 (Stark Decl.) at ¶34

# The “Subscriber Unit Of The Present Invention” Mandates The Agreed-Upon Construction

FIG. 6 is a high-level block diagram of a subscriber unit of the present invention.

\* \* \*

The bandwidth management function 134 is responsible for allocating and deallocating CDMA radio channels 160 as required. Bandwidth management 134 also includes the

\* \* \*

continuously available. However, wireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the net-

Ex. 1001 ('244 Patent) at 4:59-60; 9:64-66; 10:33-36

**“When a patent thus describes the features of ‘the present invention’ as a whole, this description limits the scope of the invention.”**

*Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007)

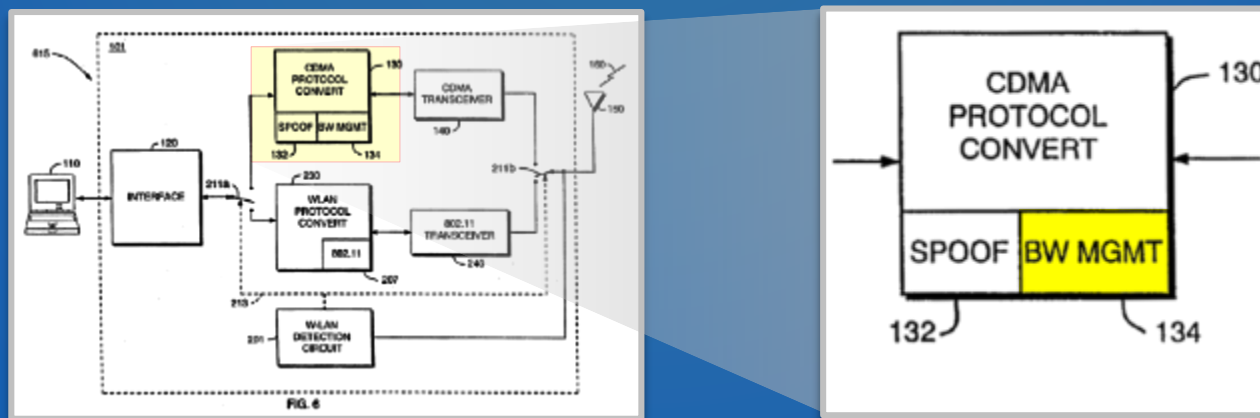
# The "Subscriber Unit Of The Present Invention" Selects Physical Channels As Needed To Transfer Data

FIG. 6 is a high-level block diagram of a subscriber unit of the present invention.

The bandwidth management function 134 is responsible for allocating and deallocating CDMA radio channels 160 as required. Bandwidth management 134 also includes the

continuously available. However, wireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the net-

Ex. 1001 ('244 Patent) at 4:59-60; 9:64-66; 10:33-36; Figure 6





# The “Subscriber Unit Of The Present Invention” Selects Channels For Use Only When It Has Data To Send

continuously available. However, wireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the net-

Ex. 1001 ('244 Patent) at 10:33-36

## DECLARATION OF DR. WAYNE E. STARK



9:64-66. The specification also notes that “wireless bandwidth is allocated only when there is actual data present.” *Id.* at 10:33-36. Because only the subscriber unit knows when it has data to transmit, a person of skill would understand that the subscriber unit must select the radio or physical channels as needed to transfer that data.

Ex. 2005 (Stark Decl.) at ¶56

# The “Subscriber Unit Of The Present Invention” Selects Physical Channels As Needed To Transfer Data

FIG. 6 is a high-level block diagram of a subscriber unit of the present invention.

\* \* \*

The bandwidth management function 134 is responsible for allocating and deallocating CDMA radio channels 160 as required.

\* \* \*

Bandwidth management 134 also includes the continuously available. However, wireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the net-

Ex. 1001 ('244 Patent) at 4:59-60; 9:64-66; 10:33-36

ZTE admits “[t]o ‘allocate’ an assigned channel means to ‘select’ that channel for use to send data.”

Petition at 12

# “In Every Single Embodiment, The Sender . . . Selects The Physical Channels For Use”

## DECLARATION OF DR. WAYNE E. STARK

Case IPR2014-00525  
Patent 8,380,244



56. I also understand that when a patent describes the features of the “present invention” as a whole, this description limits the scope of the invention, unless there is contradictory intrinsic evidence. Here, the specification not only describes a subscriber unit of “the present invention” as being responsible for selecting channels, but in every single embodiment the sender – here, the subscriber unit – selects the physical channels for use. For example, a “subscriber

Ex. 2005 (Stark Decl.) at ¶56

Before SAL  
BEVERLY

DECLARATION OF DR. WAYNE E. STARK

IPR Licensing, Inc.  
Exhibit 2005  
ZTE Corp v. IPR Licensing, Inc.  
IPR2014-00525

Ex. 2005-0001

... CDMA radio channels 160 as required.” See ZTE Ex. 1001 (“244 Patent”) at 9:64-66. The specification also notes that “wireless bandwidth is allocated only when there is actual data present.” *Id.* at 10:33-36. Because only the subscriber

22

Ex. 2005-0025

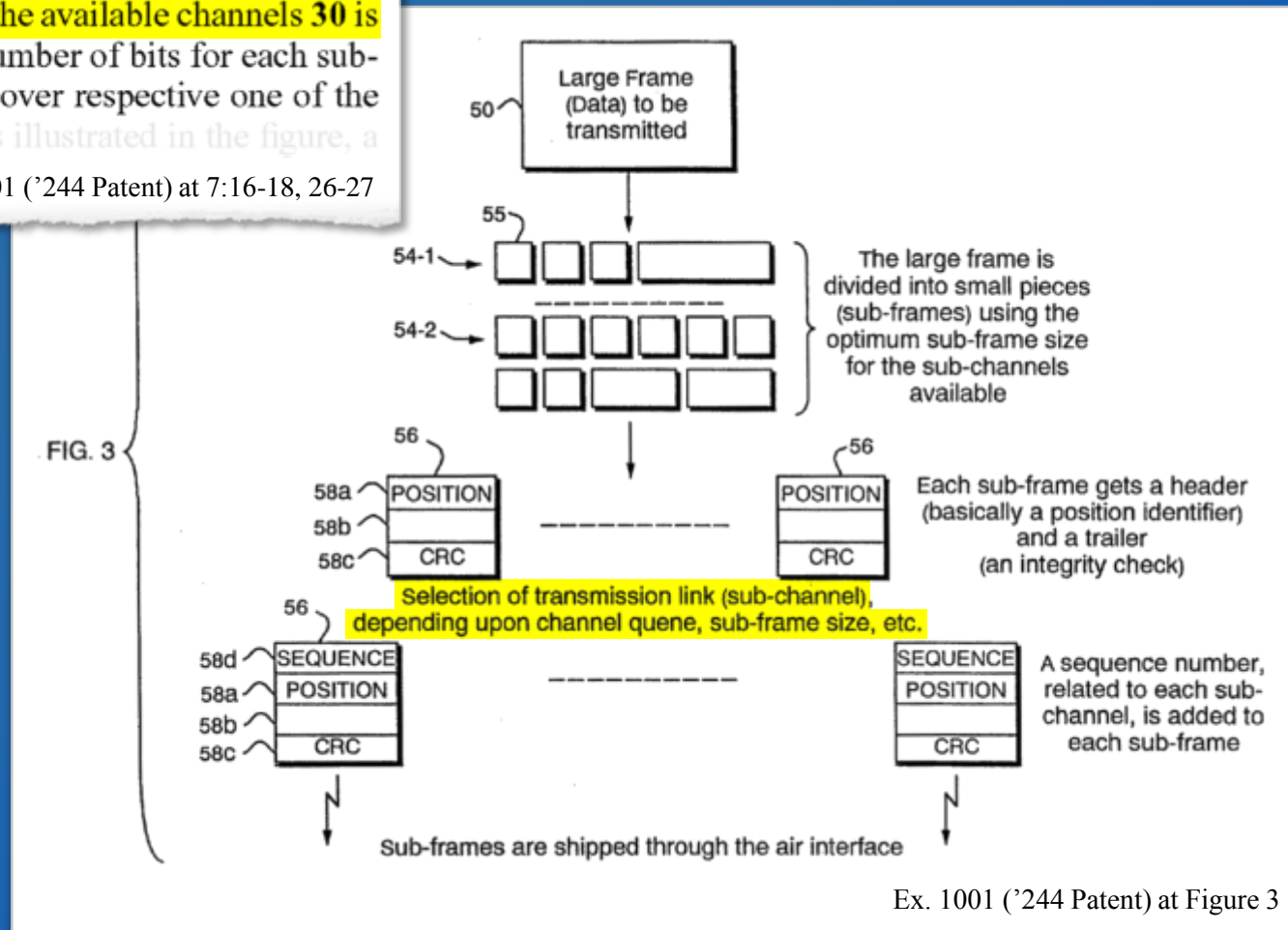
# "A Subset Of The Available Channels Is Selected"

Turning attention now more particularly to FIG. 3, the operations of the **protocol converter 25 or 46 at the sender** will be more particularly described. As shown, the input frame 50

\* \* \*

available at any time. **A subset of the available channels 30 is selected**, and then the optimum number of bits for each sub-frame intended to be transmitted over respective one of the channels, is then chosen. Thus, as illustrated in the figure, a

Ex. 1001 ('244 Patent) at 7:16-18, 26-27



Ex. 1001 ('244 Patent) at Figure 3

# "The Proposed Construction . . . Adopted By The District Court And By Both ZTE And InterDigital In This IPR, Recognizes That The Subscriber Unit, Not The Base Station, Selects The Physical Channels To Be Used"

Response at 3



**Wayne E. Stark, Ph.D.**

Patent Owner's IPR Expert

5 A. . . . So when you allocate in the '970 or the '244  
6 patent, when a channel -- when physical layer channels  
7 are allocated, they're going to be used, and they've  
8 been selected for use and they're going to be used.

9 So my opinion has not changed from the ITC.  
10 The allocation is done at the subscriber unit. The  
11 selection for use is done at the subscriber unit. The  
12 use is done at the subscriber unit.

13 So when a subscriber unit allocates, it's going  
14 to use because it's already selected those channels to  
15 use.

Ex. 1025 (Stark Tr.) at 40:5-15

# “The Proposed Construction . . . Adopted By The District Court And By Both ZTE And InterDigital In This IPR, Recognizes That The Subscriber Unit, Not The Base Station, Selects The Physical Channels To Be Used”

Response at 3



**Wayne E. Stark, Ph.D.**

**Patent Owner's IPR Expert**

15 Q. Within the context of the '244 patent  
16 specification in the claims, your view is that selection  
17 is different from use?  
18 **A. Selection is different from use because the --**  
19 **you could use it without the subscriber unit selecting,**  
20 **as in GPRS. In the patent, it requires the subscriber**  
21 **unit to select for use. So just using it by itself is**  
22 **different from selecting and then using.**

Ex. 1025 (Stark Tr.) at 54:15-22

# In The Prior Art, The Base Station Selects The Channels And The Subscriber Unit Then Uses The Channels

## DECLARATION OF DR. WAYNE E. STARK



68. GPRS (along with IS-95, IS-657, and CDPD) uses the standard prior art approach to select physical channels. In this approach, when the subscriber unit has data to send, it requests channels from the base station. The base station then selects the cellular physical channels for the subscriber unit to use, and informs the subscriber unit of the selection. The subscriber unit then uses the channels selected by the base station to send data. Thus, the base station (or more precisely, the

Ex. 2005 (Stark Decl.) at ¶68

IPR Licensing, Inc.  
October 2007  
ETX Corp. v. IPR Licensing, Inc.  
IPR2007-00022

Ex. 2003-0001

26

Ex. 2003-0029

27

Ex. 2003-0036

# In Reply, Petitioner Attempts To Revise Claim Interpretation, Equating Selection And Mere Use

## Petition:

SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,380,244

	<b>ZTE</b>
plurality of	<b>plurality of physical</b>
assigned	<b>channels available for the</b>
physical	<b>subscriber unit to select for</b>
channels	<b>use</b>

Petition at 10

From claim 1, recites that “the processor is further configured to allocate and deallocate at least one of the plurality of assigned physical channels.” (Ex. 1001 (244 Patent), 12:1-5). As a result, “allocate” must mean something different from “assign.”

ZTE’s constructions give consistent meaning to each word in the claim.



# In Reply, Petitioner Attempts To Revise Claim Interpretation, Equating Selection And Mere Use

## Petition:

SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,380,244

	ZTE
plurality of	plurality of physical
assigned	channels available for the
physical	subscriber unit to select for
channels	use

Petition at 10

From claim 1, recites that “the processor is further configured to allocate and deallocate at least one of the plurality of assigned physical channels.” (Ex. 1001 (244 Patent), 12:1-3). As a result, “allocate” must mean something different from “assign.”

ZTE’s constructions give consistent meaning to each word in the claim.

10

## Reply:

PETITIONERS’ REPLY TO PATENT OWNER’S RESPONSE

However, any subscriber unit that *uses* a channel necessarily “selects,” or “allocates,” that channel for use, even if the base station *assigned* or chose the channel previously. Pet. at 11, 13; Ex. 1002 (Bims Decl.), ¶ 100. Dr. Stark Reply at 4

the “select” as the proposed construction. Taking “select” strictly out of context, Patent Owner would require the subscriber unit to make an affirmative choice beyond the decision to use a channel. E.g., PO Resp. at 3 & 1, 13-15, 15-16. However, any subscriber unit that uses a channel necessarily “selects,” or “allocates,” that channel for use, even if the base station assigned or chose the channel previously. Pet. at 11, 13; Ex. 1002 (Bims Decl.), ¶ 100. Dr. Stark candidly agreed in the context of the 970 patent patent specification, equating “allocation” with “use.” Ex. 1025 (Stark Tr.), at 38:7-39:7, 39:23-40:4. The Federal Circuit has since affirmed that understanding, relying on Dr. Stark’s prior testimony. Ex. 1077 at 18. The Federal Circuit rejected Patent Owner’s attempt to distinguish the prior art by differentiating “allocation” from “use” in view of the specification common to both the 970 and 244 patents. Ex. 1077 at 17-18. Considering that Dr. Stark equated “allocation” and “use” in the context of the 970

4

# In Reply, Petitioner Attempts To Revise Claim Interpretation To Remove Selection By Subscriber Unit

## Petition:

### SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent) 7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains

Petition at 11

...in particular, replace "selected" with "allocated" in the context of 10:9 and correct the numbering in the

The intrinsic record supports ZTC's proposed construction for each of these terms. (See Ex. 1009 (Claim Cl. Constr. B.) at 71-74; Ex. 1002 (Bims Decl.) at ¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent) 7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains how the subscriber unit may allocate assigned channels depending on whether the channels are needed to send data at any particular time:

[W]ireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the network layer need not allocate the assigned wireless bandwidth for the entirety of the communication session. That is,

# In Reply, Petitioner Attempts To Revise Claim Interpretation To Remove Selection By Subscriber Unit

## Petition:

### SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent) 7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains

Petition at 11

## Reply:

### PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE

13-15, 26), the claim language does not dictate which entity must choose, or “assign,” the channels (e.g., base station or subscriber unit) or how many of those channels must be used (e.g., all, some, or none). Indeed, claim 1 does not require

Reply at 3

**Prior Art:**  
**Physical Channel Selection**  
**By The Base Station/Network**

# The Experts Agree: Jawanda Says Nothing About Physical Channels

## DECLARATION OF DR. WAYNE E. STARK



67. Jawanda itself says nothing about “assigned physical channels,” let alone about which entity selects physical channels. *See* ZTE Ex. 1003 (Jawanda); Ex. 2005 (Stark Decl.) at ¶67



**Harry Bims, Ph.D.**  
Petitioner’s IPR Expert

21 BY MS. HOLLOWAY:

22 Q. Okay. And you're aware, then, that the term "physical  
1 channel" does not appear in Jawanda?

2 **A. Jawanda does not use that term, correct.**

Ex. 2006 (Bims Tr.) at 21:22-22:2

# Petitioner Relies On Jawanda's Mention of GPRS Standards As Disclosing "Assigned Physical Channels"

SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,380,244

U.S. Patent No. 8,380,244  
ocket No. 14569-00009

VII. CLAIM CHARTS

Claims 1 and 23	Disclosure of Jawanda and GPRS
<p>(1a) a cellular transceiver configured to communicate with a cellular wireless network via a <u>plurality of assigned physical channels</u>;</p>	<p>“For <u>data connections</u>, such wireless signals can be transmitted according to any currently available or future wireless data protocol such as code division multiple access (CDMA), CDPD, or <u>GPRS</u>.”</p>
<p>(21a) establishing a</p>	<p>(Ex. 1003 (Jawanda) at 3:6-9.)</p>

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made to the contents of the petition. Submitted herewith are corrected Exhibit 1010 and corrected Exhibit 1011, which have been renumbered to conform to the numbering in the Table of Exhibits contained herein.

MSC within NSS 32 using a message transmitted to base station 30 via control channel.”  
(Ex. 1003 (Jawanda) at 4:8-30.)  
In combination with GPRS Standards:  
“Multislot configurations for packet switched connections are defined as multiple (1 up to 8) PDCH/Us and one PACCH for one mobile originated communication, or multiple (1 up to 8)

# At the Time of the Invention, Cellular Standards Taught Channel Selection By The Base Station

## DECLARATION OF DR. WAYNE E. STARK



68. GPRS (along with IS-95, IS-657, and CDPD) uses the standard prior art approach to select physical channels. In this approach, when the subscriber unit has data to send, it requests channels from the base station. The base station then selects the cellular physical channels for the subscriber unit to use, and informs the subscriber unit of the selection. The subscriber unit then uses the channels selected by the base station to send data. Thus, the base station (or more precisely, the cellular network, via the base station) selects the cellular physical channels for use – not the subscriber unit, as required by the agreed-upon construction.

Ex. 2005 (Stark Decl.) at ¶68

# In GPRS, The Network Selects The Physical Channels For Use

## DECLARATION OF DR. WAYNE E. STARK

Case IPR2014-00525  
Patent 8,380,244



73. In September 1999, GPRS allowed for three possible modes for allocating channels to the subscriber unit: ① dynamic allocation, ② extended dynamic allocation, and ③ fixed allocation. ZTE Ex. 1005.06 (GSM 4.60 v. 6.1.0) at § 5.2.4.

While the details varied, in each mode, the base station selected the physical channel or channels for use by the subscriber unit. *See id.* at §§ 8.1.1.1, 8.1.1.2, 8.1.1.3.

Ex. 2005 (Stark Decl.) at ¶73

Before SALON C. MEDLEY, MURRAY E. QUINN, and  
BEVERLY M. BUNTING, Administrative Patent Judges.

DECLARATION OF DR. WAYNE E. STARK

IPR Licensing, Inc.  
Exhibit 2005  
ZTE Corp. v. IPR Licensing, Inc.  
IPR2014-00525

Ex. 2005-0001

Temporary Block Flow) and 7.1.2.1 (Initiation of the packet access procedure).

75. In response to the PACKET CHANNEL REQUEST, "the network may assign a radio resource on one or more PDCHs to be used by the mobile station for the TBF." *Id.* at § 7.1.2.2.1. Specifically, before the subscriber unit

29

Ex. 2005-0032



# In GPRS, The Network Selects The Physical Channels For Use

## DECLARATION OF DR. WAYNE E. STARK



74. Specifically, in Release 97 of GPRS, as it existed in September 1999, the subscriber unit “initiates the packet access procedure” for a Temporary Block Flow, or TBF, “by scheduling the sending of [a] PACKET CHANNEL REQUEST.” ZTE Ex. 1005.06 (GSM 4.60 v. 6.1.0) at §§ 8.1.2.5 (describing Temporary Block Flow) and 7.1.2.1 (Initiation of the packet access procedure).

Ex. 2005 (Stark Decl.) at ¶74

Before SALLY C. MEDLEY, MIRIAM L. QUINN, and  
BEVERLY M. BUNTING, Administrative Patent Judges.

DECLARATION OF DR. WAYNE E. STARK

IPR Licensing, Inc.  
Exhibit 2005  
ZTE Corp v. IPR Licensing, Inc.  
IPR2014-0033

Ex. 2005-0001

Flow, or TBF, “by scheduling the sending of [a] PACKET CHANNEL  
REQUEST.” ZTE Ex. 1005.06 (GSM 4.60 v. 6.1.0) at §§ 8.1.2.5 (describing  
Temporary Block Flow) and 7.1.2.1 (Initiation of the packet access procedure).

75. In response to the PACKET CHANNEL REQUEST, “the network  
may assign a radio resource on one or more PCHs to be used by the mobile  
station for the TBF.” *Id.* at 7.1.2.2.1. Specifically, before the subscriber unit

29

Ex. 2005-0032

# GPRS Dynamic Allocation: The Network Selects The Physical Channels

## DECLARATION OF DR. WAYNE E. STARK



76. The PACKET UPLINK MESSAGE may also include an Uplink State Flag, or USF. *Id.* at § 3.1. “If the dynamic allocation medium access mode is used, the network shall include the USF values allocated for PDCHs in the PACKET UPLINK ASSIGNMENT message.” *Id.* at § 7.1.2.2.1, ¶ 4. As

\* \* \*

77. In dynamic allocation mode, “[w]henver the mobile station detects an assigned USF value on an assigned PDCH, the mobile station shall transmit one or four RLC/MAC blocks on the same PDCH in the next block period(s).” *Id.* at § 8.1.1.1, ¶ 3. Another value in the PACKET UPLINK MESSAGE determines

\* \* \*

whether the mobile station transmits one or four RLC/MAC blocks. *Id.* Thus, in the dynamic allocation mode, the network, via the USF value, tells the mobile station which PDCH it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Bims concedes that the term “shall” means that this

Ex. 2005 (Stark Decl.) at ¶¶76-77

Case IPR2014-00525  
Patent 8,380,244  
be used for the  
these channels  
unit. That is  
selection mean  
are to be used.  
in Uplink State  
access mode is  
PDCHs in the  
2.1, ¶ 4. As  
per unit which  
tion mode, the  
station detects  
ll transmit one  
ed(s).” *Id.* at §  
GE determines  
*Id.* Thus, in  
lls the mobile  
st block or the  
means that this  
Ex. 2005-0033

Before SALLY  
BEVERLY M. B

# GPRS Extended Dynamic Allocation: The Network Selects The Physical Channels

## DECLARATION OF DR. WAYNE E. STARK



78. Extended dynamic allocation mode is similar. “Whenever the mobile station detects an assigned USF value on an assigned PDCH, the mobile station shall transmit an RLC/MAC block on the same PDCH in the next block period,” just as in dynamic allocation mode. ZTE Ex. 1005.06 (GSM 4.60 v. 6.1.0) at § 8.1.1.2.1, ¶ 2. In addition, “[t]he mobile station *shall* then transmit an RLC/MAC

\* \* \*

unit transmits on multiple PDCHs in the next block period. In other words, in the extended dynamic allocation mode, the network, via the USF value, tells the mobile station which PDCHs it “shall” use to transmit data. Thus, in this mode,

Ex. 2005 (Stark Decl.) at ¶78

ZTE Corp v. IPR Licensing, Inc.  
IPR2014-00525

Ex. 2005-0001

Ex. 2005-0034

# GPRS Fixed Allocation: The Network Selects The Physical Channels

## DECLARATION OF DR. WAYNE E. STARK



79. In the fixed allocation mode, the PACKET ALLOCATION ASSIGNMENT message identifies the PDCHs “assigned to the fixed allocation,” and “an ALLOCATION\_BITMAP indicating radio blocks assigned to the fixed allocation.” *Id.* at § 8.1.1.3.1, ¶ 1. And, “[t]he mobile station shall transmit an RLC/MAC block in each radio block assigned by the ALLOCATION\_BITMAP.”

Ex. 2005 (Stark Decl.) at ¶79

Patent 8,380,244

Before SALLY C. MEDLEY, MIRIAM L. QUINN, and  
BEVERLY M. BUNTING, Administrative Patent Judges.

DECLARATION OF DR. WAYNE E. STARK

IPR Licensing, Inc.  
Exhibit 2005  
ZTE Corp. v. IPR Licensing, Inc.  
IPR2014-00525

Ex. 2005-0001

an assigned USF value on an assigned PDCH, the mobile station *shall* transmit one or four RLC/MAC blocks on the same PDCH in the next block period(s).” *Id.* at § 8.1.1.1, ¶ 3. Another value in the PACKET UPLINK MESSAGE determines whether the mobile station transmits one or four RLC/MAC blocks. *Id.* Thus, in the dynamic allocation mode, the network, via the USF value, tells the mobile station which PDCH it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Bims concedes that the term “shall” means that this

30

Ex. 2005-0033

# Petitioner's Litigation Expert Admitted That In GPRS, The Network Selects The Physical Channels



**Steven W. McLaughlin, Ph.D.**  
Petitioner's Litigation Expert

15 Q. Okay. So according to the GPRS standard,  
16 the network uses the uplink state flag to tell the  
17 mobile station to transmit data on the PDCH  
18 corresponding to that uplink state flag. Right?

19 **A. Yeah, that appears to be what's happening,**  
20 **yes.**

Ex. 2010 (McLaughlin Tr.) at 131:15-20

# Petitioner's IPR Expert Admitted That In GPRS, The Network Selects The Physical Channels



**Harry Bims, Ph.D.**  
**Petitioner's IPR Expert**

Q. So in GPRS the cell allocates resources on one or several physical channels; right?

**A. That's correct.**

Q. Okay. And those physical channels, according to this paragraph, are taken from the common pool of channels available in the cell; right?

**A. Yes.**

Q. So these physical channels are already available or, in the terms of the '244 patent, assigned; right?

MR. JONES: Objection; form, foundation.

**A. So these channels are assigned to individual mobile stations in GPRS.**

\* \* \*

Q. Okay. So what the capacity on demand in 6.1.1.2 is talking about is the allocation of physical channels by the cell; right?

**A. Yes, that's correct.**

Ex. 2006 (Bims Tr.) at 39:19-40:8, 42:3-6

# Petitioners and Their Expert Have No Evidence of Channel Selection By The Subscriber Unit

## 6.1.1 Allocation of resources for the GPRS

A cell supporting GPRS may allocate resources on one or several physical channels in order to support the GPRS traffic. Those physical channels (i.e. PDCHs), shared by the GPRS MSs, are taken from the common pool of physical channels available in the cell. The allocation of physical channels to circuit switched services and GPRS is done dynamically according to the "capacity on demand" principles described below.

Ex. 1005.10 (GSM 03.64 v.6.1.0) at 6.1.1



A physical channel is therefore defined as a sequence of TDMA frames, a time slot number (modulo 8) and a frequency hopping sequence.

Ex. 1005.09 [GPRS Standards, GSM 05.01 v. 6.1.1] at §5 Multiple access and timeslot structure.

Multislot configurations for packet switched connections are defined as multiple (1 up to 8) PDTCH/Us and one PACCH for one mobile originated communication, or multiple (1 up to 8) PDTCH/Ds and one PACCH for one mobile terminated communication respectively, allocated to the same MS. In this context allocation refers to the list of PDCH that may dynamically carry the PDTCHs for that specific MS. The PACCH shall be mapped onto one PDCH carrying one PDTCH/U or PDTCH/D. That PDCH shall be indicated in the resource allocation message (see GSM 04.60).

Ex. 1005.09 [GPRS Standards, GSM 05.01 v. 6.1.1] at §2 Set of channels.

Ex. 1002 (Bims Decl.) at ¶184

# GPRS 5.01, Section 5 Merely Discloses Multiple Time Slots

## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



A physical channel is therefore defined as a sequence of TDMA frames, a time slot number (modulo 8) and a frequency hopping sequence.

Ex. 1005.09 [GPRS Standards, GSM 05.01 v. 6.1.1] at §5 Multiple access and timeslot structure.

Multislot configurations for packet switched connections are defined as multiple (1 up to 8) PDTCH/Us and one PACCH for one mobile originated communication, or multiple (1 up to 8) PDTCH/Ds and one PACCH for one mobile terminated communication respectively, allocated to the same MS. In this context allocation refers to the list of PDCH that may dynamically carry the PDTCHs for that specific MS. The PACCH shall be mapped onto one PDCH carrying one PDTCH/U or PDTCH/D. That PDCH shall be indicated in the resource allocation message (see GSM 04.60).

Ex. 1005.09 [GPRS Standards, GSM 05.01 v. 6.1.1] at §2 Set of channels.

Ex. 1002 (Bims Decl.) at ¶184

Case No. IPR2014-00325

244 Patent

BIMS DECLARATION  
EX. 1002

74

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00001

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00076



# GPRS 5.01, Section 2 Describes Channels “Allocated To The Same MS,” by “Resource Allocation Message”

## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



A physical channel is therefore defined as a sequence of TDMA frames, a time slot number (modulo 8) and a frequency hopping sequence.

Ex. 1005.09 [GPRS Standards, GSM 05.01 v. 6.1.1] at §5 Multiple access and timeslot structure.

Multislot configurations for packet switched connections are defined as multiple (1 up to 8) PDTCH/Us and one PACCH for one mobile originated communication, or multiple (1 up to 8) PDTCH/Ds and one PACCH for one mobile terminated communication respectively, allocated to the same MS. In this context allocation refers to the list of PDCH that may dynamically carry the PDTCHs for that specific MS. The PACCH shall be mapped onto one PDCH carrying one PDTCH/U or PDTCH/D. That PDCH shall be indicated in the resource allocation message (see GSM 04.60).

Ex. 1005.09 [GPRS Standards, GSM 05.01 v. 6.1.1] at §2 Set of channels.

Ex. 1002 (Bims Decl.) at ¶184

Case No. IP2014-00325

244 Pages

BIMS DECLARATION  
EX. 1002

74

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00001

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00076

# GPRS "Capacity On Demand"

**Digital cellular telecommunications system (Phase 2+);  
General Packet Radio Service (GPRS);  
Overall description of the GPRS radio interface;  
Stage 2  
(GSM 03.64 version 6.1.0 Release 1997)**

## 6.1.1 Allocation of resources for the GPRS

A cell supporting GPRS may allocate resources on one or several physical channels in order to support the GPRS traffic. Those physical channels (i.e. PDCHs), shared by the GPRS MSs, are taken from the common pool of physical channels available in the cell. The allocation of physical channels to circuit switched services and GPRS is done dynamically according to the "capacity on demand" principles described below.

Ex. 1005.10 at 6.1.1



ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1005.10-00001

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1005.10-00014

# GPRS "Capacity On Demand"



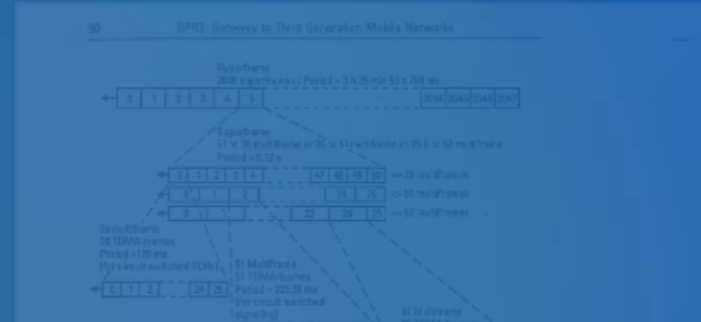
**Harry Bims, Ph.D.**

**Petitioner's IPR Expert**

- 3 Q. Okay. So what the capacity on demand in 6.1.1.2 is  
4 talking about is the allocation of physical channels by  
5 the cell; right?
- 6 A. **Yes, that's correct.**

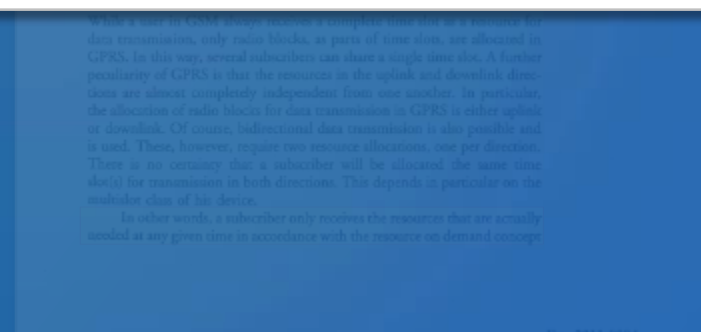
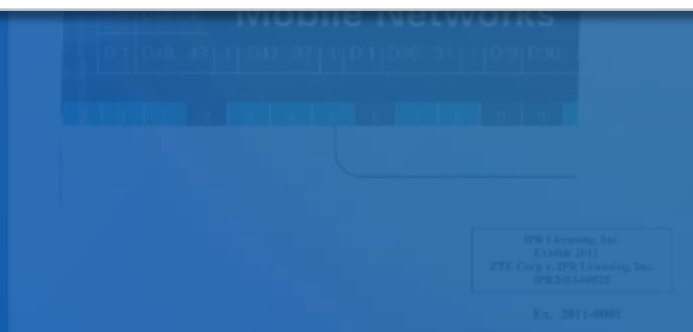
Ex. 2006 (Bims Tr.) at 42:3-6

# Text Shows That In GPRS, The Network Selects The Physical Channels



In other words, a subscriber only receives the resources that are actually needed at any given time in accordance with the resource on demand concept

Ex. 2011 (Heine Excerpt) at 90-92



# GPRS Is Incompatible With Channel Selection By The Subscriber Unit

## DECLARATION OF DR. WAYNE E. STARK



95. For TDMA to allow for subscriber units to select physical channels for use, there would need to be a mechanism to allow subscriber units to know when a time slot is not being used. There would also need to be a mechanism for a subscriber unit to inform all other subscriber units that it intends to use such a slot. In particular, it would require full knowledge of all the use of all time slots of all users to know which time slots were available for use. There are no such mechanisms in GPRS or any other TDMA system that I am aware of. Furthermore, such a system would be cumbersome and impractical to operate, due to the nature of TDMA.

Ex. 2005 (Stark Decl.) at ¶95

# Petitioners' "Select To Use" Theory

# “If A Subscriber Unit Merely Chooses To Use, Or Not Use, The Available Channels, This Is Not Selecting For Use”

Response at 25

## DECLARATION OF DR. WAYNE E. STARK



84. First, the claims, under the agreed-upon construction, require cellular physical channels that the subscriber unit can “select for use.” In other words, the subscriber unit has to be able to make a selection from the available physical channels. Using, or not using, all the channels assigned by the network is not making a selection. As discussed in the District Court’s *Markman* opinion, the rationale for this construction is that in the ’244 Patent, a bandwidth management function “*makes channels available* for use [assigns channels].” Ex. 2009 (Markman Op.) at 15 (emphasis in original). Then “a subset of those available channels are *selected for use* [allocated] to send data.” *Id.* (emphasis in original). The claim construction contemplates that the subscriber unit can select a *subset* of the available channels – consistent with the ordinary meaning of “select.” Ex. 2012 (American Heritage Dictionary, 3d ed.) at 741.

Ex. 2005 (Stark Decl.) at ¶84

# “It Is Simply Not True That In GPRS, A Subscriber Unit Can Choose to Use, Or Not Use, Its Assigned Channels”

## DECLARATION OF DR. WAYNE E. STARK



uplink transfer.” *Id.* at § 8.1.1. Note that according to the standard, these channels are “to be used” – they are not merely “available” to the subscriber unit. That is because, again, in the prior art cellular standards, assignment and selection mean the same thing: the channels that are assigned are the channels that are to be used.

Ex. 2005 (Stark Decl.) at ¶75

Before SALLY C. MEDLEY, MARGARET QUINN, and BEVERLY M. BUNTING, Administrative Patent Judges

DECLARATION OF DR. WAYNE E. STARK

SPR Licensing, Inc.  
Exhibit 2005  
SPR Corp., SPR Licensing, Inc.  
IPR 2004-0048

Ex. 2005-0005

or four RLC/MAC blocks on the same TFCI of the next block period.” *Id.* at § 8.1.1.1, ¶ 3. Another value in the PACKET UPLINK MESSAGE determines whether the mobile station transmits one or four RLC/MAC blocks. *Id.* Thus, in the dynamic allocation mode, the network, via the UPI value, tells the mobile station which TFCI it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Stark concedes that the term “shall” means that this

10

Ex. 2005-0005



# “It Is Simply Not True That In GPRS, A Subscriber Unit Can Choose to Use, Or Not Use, Its Assigned Channels”

Response at 26

## DECLARATION OF DR. WAYNE E. STARK



77. In dynamic allocation mode, “[w]henver the mobile station detects an assigned USF value on an assigned PDCH, the mobile station shall transmit one or four RLC/MAC blocks on the same PDCH in the next block period(s).” *Id.* at § 8.1.1.1, ¶ 3. Another value in the PACKET UPLINK MESSAGE determines

Ex. 2005 (Stark Decl.) at ¶77

Before SALLY C. MEDLEY, MARGARET QUINN, and  
BEVERLY M. BUNTING, Administrative Patent Judges

DECLARATION OF DR. WAYNE E. STARK

3PR Licensing, Inc.  
E-00489-1780  
3PR Corp., 3PR Licensing, Inc.  
IPU-004-00012

Ex. 2005-0009

or four RLC/MAC blocks on the same PDCH in the next block period.” *Id.* at § 8.1.1.1, ¶ 3. Another value in the PACKET UPLINK MESSAGE determines whether the mobile station transmits one or four RLC/MAC blocks. *Id.* Thus, in the dynamic allocation mode, the network, via the USF value, tells the mobile station which PDCH it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Stark concedes that the term “shall” means that this

10

Ex. 2005-0012

# “It Is Simply Not True That In GPRS, A Subscriber Unit Can Choose to Use, Or Not Use, Its Assigned Channels”

Response at 26

## DECLARATION OF DR. WAYNE E. STARK



78. Extended dynamic allocation mode is similar. “Whenever the mobile station detects an assigned USF value on an assigned PDCH, the mobile station shall transmit an RLC/MAC block on the same PDCH in the next block period,” just as in dynamic allocation mode. ZTE Ex. 1005.06 (GSM 4.60 v. 6.1.0) at § 8.1.1.2.1, ¶ 2. In addition, “[t]he mobile station *shall* then transmit an RLC/MAC Ex. 2005 (Stark Decl.) at ¶78

DECLARATION OF DR. WAYNE E. STARK

WTE Consulting, Inc.  
Exhibit 1005  
ZTE Corp., WTE Consulting, Inc.  
1005-005-0001

Ex. 2005-0050

the dynamic allocation mode, the network, via the USF value, tells the mobile station which PDCH it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Stark concedes that the term “shall” means that the

10

Ex. 2005-0050

# “It Is Simply Not True That In GPRS, A Subscriber Unit Can Choose to Use, Or Not Use, Its Assigned Channels”

Response at 26

## DECLARATION OF DR. WAYNE E. STARK



79. In the fixed allocation mode, the PACKET ALLOCATION ASSIGNMENT message identifies the PDCHs “assigned to the fixed allocation,” and “an ALLOCATION\_BITMAP indicating radio blocks assigned to the fixed allocation.” *Id.* at § 8.1.1.3.1, ¶ 1. And, “[t]he mobile station shall transmit an RLC/MAC block in each radio block assigned by the ALLOCATION\_BITMAP.”

Ex. 2005 (Stark Decl.) at ¶79

DECLARATION OF DR. WAYNE E. STARK

the dynamic allocation mode, the network can be used to indicate the mobile station which PDCH it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Stark concedes that the term “shall” means that the

WTE Consulting, Inc.  
10/20/05 (7/05)  
2700 Corp., WTE Consulting, Inc.  
10/20/05 (7/05)

Ex. 2005-0005

Ex. 2005-0005

# “In The GPRS Standards. . . The Subscriber Unit Is Required To Use The Channels Selected By The Base Station”

Response at 25

## DECLARATION OF DR. WAYNE E. STARK



whether the mobile station transmits one or four RLC/MAC blocks. *Id.* Thus, in the dynamic allocation mode, the network, via the USF value, tells the mobile station which PDCH it “shall” use to transmit data, in either the next block or the next four blocks. Notably, Dr. Bims concedes that the term “shall” means that this

Ex. 2005 (Stark Decl.) at ¶77



**Harry Bims, Ph.D.**

**Petitioner’s IPR Expert**

10 Q. Okay. You mentioned mandatory features.

11 What language is used to identify a mandatory

12 feature in a standard?

13 A. So typically the sentence would include the word “shall”

14 in reference to a mandatory functionality.

Ex. 2006 (Bims Tr.) at 155:10-14

# “In The GPRS Standards. . . The Subscriber Unit Is Required To Use The Channels Selected By The Base Station”

Response at 25

## DECLARATION OF DR. WAYNE E. STARK



90. The requirement that the selected channels “shall” be used is not only explicit in the GPRS documents – it is common sense for TDMA-based systems. Cellular providers pay a high price for bandwidth. It makes no sense for them to allow physical channels, i.e., one or more time slots, to be assigned to a subscriber unit and not available for other subscribers, and then have that subscriber unit choose not to use those channels.

Ex. 2005 (Stark Decl.) at ¶90

DECLARATION OF DR. WAYNE E. STARK

forced to stop using the channels.

GPRS Licensing, Inc.  
8/2004/2005  
ETSI Core & GPRS Licensing, Inc.  
IPR2014-00525

Ex. 2005-0001

37

Ex. 2005-0040

# Claims 8 and 30 Not Disclosed

# “Claims 8 and 30 Are Not Disclosed By Jawanda With A GPRS Cellular Connection”

Response at 39

“Jawanda With **GPRS** Does Not Include A Cellular Network That Is A CDMA Network”

Response at 39

**GPRS**

a cellular transceiver configured to communicate with a **cellular wireless network** via a plurality of assigned physical channels;

**GPRS**

\* \* \*  
a processor configured to maintain a communication session with the **cellular wireless network** in an absence of the plurality of assigned physical channels while the

Ex. 1001 ('244 Patent) at Claim 1

**GPRS**

8. The subscriber unit of claim 1, wherein the **cellular wireless network** is a code division multiple access ~~(CDMA)~~ wireless network, and the cellular transceiver is a cellular code division multiple access (CDMA) transceiver.

Ex. 1001 ('244 Patent) at Claim 8



**Harry Bims, Ph.D.**

Petitioner's IPR Expert

Q. Okay. Now, **GPRS** uses time division multiple access or TDMA; right?

MR. JONES: Objection; form.

**A. Yes, that's true.**

Ex. 2006 (Bims Tr.) at 32:22-33:3

# “Claims 8 and 30 Are Not Disclosed By Jawanda With A GPRS Cellular Connection”

Response at 39

“Jawanda With **GPRS** Does Not Include A Cellular Network That Is A CDMA Network”

Response at 39

**GPRS**

a cellular transceiver configured to communicate with a **cellular wireless network** via a plurality of assigned physical channels;

**GPRS**

\* \* \*  
a processor configured to maintain a communication session with the **cellular wireless network** in an absence of the plurality of assigned physical channels while the

Ex. 1001 ('244 Patent) at Claim 1

**Jawanda – CDMA**

8. The subscriber unit of claim 1, wherein the ~~cellular wireless network~~ is a code division multiple access (CDMA) wireless network, and the cellular transceiver is a cellular code division multiple access (CDMA) transceiver.

Ex. 1001 ('244 Patent) at Claim 8

**Petitioner Cannot Rely On A Completely Different Type of Cellular Network Using Different Types of Physical Channels For Claims 8 and 30**

Response at 40



# **Other Prior Art Standards**

# “[I]n IS-95 and IS-657, The Base Station Selects The Physical Channel”

Ex. 2005 (Stark Decl.) at ¶102



68. GPRS (along with IS-95, IS-657, and CDPD) uses the standard prior art approach to select physical channels. In this approach, when the subscriber unit has data to send, it requests channels from the base station. The base station then selects the cellular physical channels for the subscriber unit to use, and informs the subscriber unit of the selection.

\* \* \*

102. Moreover, in IS-95 and IS-657, the base station selects the physical channel for use by the subscriber unit. Indeed, ZTE's expert in the District Court Case testified that “[t]he base station in IS-95, IS-657 ... tells the mobile station [subscriber unit] which traffic channels to use.” See Ex. 2015 (Delaware Trial Tr.)

Ex. 2005 (Stark Decl.) at ¶¶68, 102



**Steven W. McLaughlin, Ph.D.**

**Petitioner's Litigation Expert**

Q. Sure. The base station in IS-95, IS-657, the base station tells the mobile station which traffic channels to use; right?

A. Yes.

Q. And specifically the base station tells the mobile station which traffic channel to use by sending it a channel assignment message; right?

A. Yes.

Q. And that message direct the mobile station to the traffic channel; right?

A. Yes.

Ex. 2015 (Delaware Trial Tr.) at 1108:3-14

# "In CDPD . . . The Base Station Selects The Channel"

Response at 18

## DECLARATION OF DR. WAYNE E. STARK



105. Moreover, in CDPD, the base station selects the physical channel for use by the subscriber unit. Indeed, Dr. McLaughlin, ZTE's expert in the District Court Case, testified that "the base station selects the channel to be used for CDPD." *See* Ex. 2008 (McLaughlin ITC 868 Inv. Dep. Tr.) at 304:5-20; *see also*

Ex. 2005 (Stark Decl.) at ¶105



**Steven W. McLaughlin, Ph.D.**  
Petitioner's Litigation Expert

Q. According to WDN '96, in CDPD, in each cell, the base station is responsible for channel usage, correct?

MR. BROOKS: Objection, the document speaks for itself.

**A. Yes, that's what the document says. Yes.**

BY MS. HOLLOWAY:

Q. And that as far as you know is an accurate description of CDPD? 09:27:16

**A. Yes.**

Q. Okay. And according to WDN '96, the base station selects the channel to be used for CDPD within the cell, correct?

MR. BROOKS: Objection, the document speaks for itself.

**A. Yes, that's what the document says.**

Ex. 2008 (868 Dep. Tr.) at 304:5-20

# **Petitioners' Reply Claim Construction**

# In Reply, Petitioner Attempts To Revise Claim Interpretation, Equating Selection And Mere Use

## Petition:

SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,380,244

	<b>ZTE</b>
plurality of	<b>plurality of physical</b>
assigned	<b>channels available for the</b>
physical	<b>subscriber unit to select for</b>
channels	<b>use</b>

Petition at 10

From claim 1, recites that “the processor is further configured to allocate and deallocate at least one of the plurality of assigned physical channels.” (Ex. 1001 (244 Patent), 12:1-3). As a result, “allocate” must mean something different from “assign.”

ZTE’s constructions give consistent meaning to each word in the claim.

# In Reply, Petitioner Attempts To Revise Claim Interpretation, Equating Selection And Mere Use

## Petition:

SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,380,244

	ZTE
plurality of	plurality of physical
assigned	channels available for the
physical	subscriber unit to select for
channels	use

Petition at 10

From claim 1, recites that “the processor is further configured to allocate and deallocate at least one of the plurality of assigned physical channels.” (Ex. 1001 (244 Patent), 12:1-3). As a result, “allocate” must mean something different from “assign.”

ZTE’s constructions give consistent meaning to each word in the claim.

10

## Reply:

PETITIONERS’ REPLY TO PATENT OWNER’S RESPONSE

However, any subscriber unit that *uses* a channel necessarily “selects,” or “allocates,” that channel for use, even if the base station *assigned* or chose the channel previously. Pet. at 11, 13; Ex. 1002 (Bims Decl.), ¶ 100. Dr. Stark Reply at 4

the “select” as the proposed construction. Taking “select” strictly out of context, Patent Owner would require the subscriber unit to make an affirmative choice beyond the decision to use a channel. E.g., PO Resp. at 3 & 1, 13-15, 15-16. However, any subscriber unit that uses a channel necessarily “selects,” or “allocates,” that channel for use, even if the base station assigned or chose the channel previously. Pet. at 11, 13; Ex. 1002 (Bims Decl.) ¶ 100. Dr. Stark candidly agreed in the context of the 970 patent patent specification, equating “allocation” with “use.” Ex. 1025 (Stark Tr.) at 38:7-39:7, 39:23-40:4. The Federal Circuit has since affirmed that understanding, relying on Dr. Stark’s prior testimony. Ex. 1077 at 18. The Federal Circuit rejected Patent Owner’s attempt to distinguish the prior art by differentiating “allocation” from “use” in view of the specification constrains to both the 970 and 244 patents. Ex. 1077 at 17-18. Considering that Dr. Stark equated “allocation” and “use” in the context of the 970

4

# In Reply, Petitioner Attempts To Revise Claim Interpretation To Remove Selection By Subscriber Unit

## Petition:

### SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent) 7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains

Petition at 11

...in particular, replace "selected" with "allocated" in the context of 10:9 and correct the numbering in the

The intrinsic record supports ZTC's proposed construction for each of these terms. (See Ex. 1009 (Claim Cl. Constr. B.) at 71-74; Ex. 1002 (Bims Decl.) at ¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent) 7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains how the subscriber unit may allocate assigned channels depending on whether the channels are needed to send data at any particular time:

[W]ireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the network layer need not allocate the assigned wireless bandwidth for the entirety of the communication session. That is,

# In Reply, Petitioner Attempts To Revise Claim Interpretation To Remove Selection By Subscriber Unit

## Petition:

### SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

¶¶98-99). The specification of the 244 patent teaches that the subscriber unit includes a bandwidth management function that selects assigned channels for use [i.e., allocates assigned channels] as needed to send data. (Ex. 1001 (244 Patent) 7:24-29; Ex. 1002 (Bims Decl.) at ¶98). For example, the specification explains

Petition at 11

## Reply:

### PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE

13-15, 26), the claim language does not dictate which entity must choose, or “assign,” the channels (e.g., base station or subscriber unit) or how many of those channels must be used (e.g., all, some, or none). Indeed, claim 1 does not require

Reply at 3



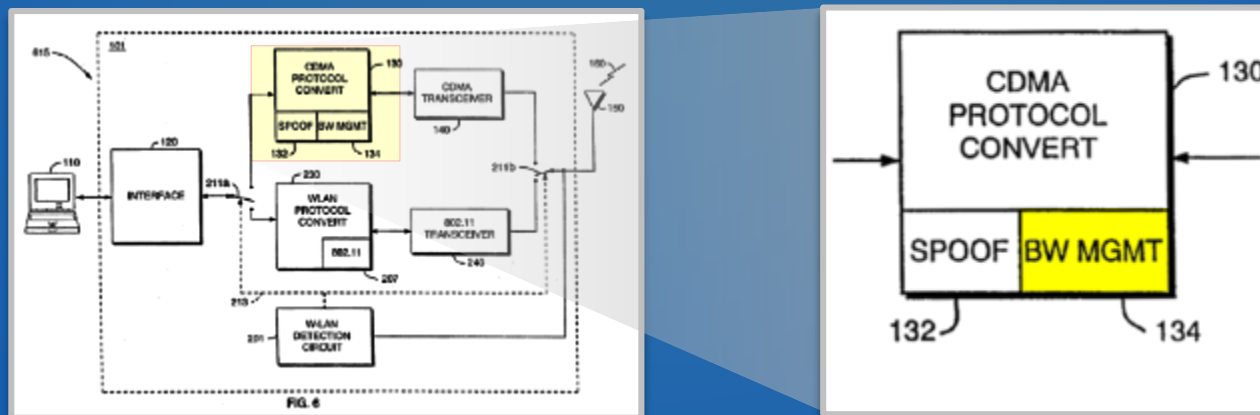
# Subscriber Unit Of The Present Invention

FIG. 6 is a high-level block diagram of a subscriber unit of the present invention.

\* \* \*  
The bandwidth management function 134 is responsible for allocating and deallocating CDMA radio channels 160 as required. Bandwidth management 134 also includes the continuously available. However, wireless bandwidth is allocated only when there is actual data present from the terminal equipment to the CDMA transceiver 140. Therefore, the net-

\* \* \*

Ex. 1001 ('244 Patent) at 4:59-60; 9:64-66; 10:33-36



# Petitioner's Expert

## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



a physical channel becomes an “assigned physical channel.” Rather, the specification describes what actions to perform on those assigned channels that have been made available to the subscriber unit. “For example a bandwidth management function may make only a certain number of channels available at any time” (Ex. 1001 (244 patent) at 7:24-26). “A subset of the available channels 30 is selected, and then the optimum number of bits for each subframe intended to be transmitted over respective one of the channels, is then chosen” (Ex. 1001 (244 patent) at 7:26-29).

Ex. 1002 (Bims Decl.) at ¶98

Case No. IPR2014-00323

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00001

BIMS DECLARATION  
EX. 1002

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00040

# Petitioners: "Any Subscriber Unit That Uses A Channel Necessarily 'Selects' . . . That Channel For Use"

Reply at 4, Response at 3

## DECLARATION OF DR. WAYNE E. STARK



68. GPRS (along with IS-95, IS-657, and CDPD) uses the **standard prior art approach to select physical channels**. In this approach, when the subscriber unit has data to send, it requests channels from the base station. **The base station then selects the cellular physical channels for the subscriber unit to use**, and informs the subscriber unit of the selection. **The subscriber unit then uses the channels selected by the base station to send data**. Thus, the base station (or more precisely, the cellular network, via the base station) selects the cellular physical channels for use – not the subscriber unit, as required by the agreed-upon construction.

Ex. 2005 (Stark Decl.) at ¶68

transfer data, it would request physical channels from the base station. **The base station would select the physical channels** and tell the subscriber unit to use those selected channels. **The subscriber unit would then use those channels to transfer data**. Ex. 2005 (Stark Decl.) at ¶ 28. This time-consuming process made the

Response at 2-3

# "The Proposed Construction . . . Adopted By The District Court And By Both ZTE And InterDigital In This IPR, Recognizes That The Subscriber Unit, Not The Base Station, Selects The Physical Channels To Be Used"

Response at 3



**Wayne E. Stark, Ph.D.**

Patent Owner's IPR Expert

5 A. . . . So when you allocate in the '970 or the '244  
6 patent, when a channel -- when physical layer channels  
7 are allocated, they're going to be used, and they've  
8 been selected for use and they're going to be used.

9 So my opinion has not changed from the ITC.  
10 The allocation is done at the subscriber unit. The  
11 selection for use is done at the subscriber unit. The  
12 use is done at the subscriber unit.

13 So when a subscriber unit allocates, it's going  
14 to use because it's already selected those channels to  
15 use.

Ex. 1025 (Stark Tr.) at 40:5-15

# “The Proposed Construction . . . Adopted By The District Court And By Both ZTE And InterDigital In This IPR, Recognizes That The Subscriber Unit, Not The Base Station, Selects The Physical Channels To Be Used”

Response at 3



**Wayne E. Stark, Ph.D.**

**Patent Owner's IPR Expert**

15 Q. Within the context of the '244 patent  
16 specification in the claims, your view is that selection  
17 is different from use?

18 **A. Selection is different from use because the --**  
19 **you could use it without the subscriber unit selecting,**  
20 **as in GPRS. In the patent, it requires the subscriber**  
21 **unit to select for use. So just using it by itself is**  
22 **different from selecting and then using.**

Ex. 1025 (Stark Tr.) at 54:15-22

# **“Assigned Physical Channels” Means “Physical Channels Available For The Subscriber To Select For Use”**

## **Petitioner Proposed This Construction, And Their Expert Supported It**

Petition at 10, Bims Dec. at ¶96

## **Patent Owner And Their Expert Agreed**

Resp. at 13, Stark Dec. at ¶55

## **Description of The Present Invention Requires Physical Channel Selection By Subscriber Unit, As Needed To Transfer Data**

Ex. 2005 (Stark Decl.) at ¶56, Ex. 1001 ('244 Patent) at 9:27-28, 9:64-66, 10:33-36, Figure 6; see also Ex. 1002 (Bims Decl.) at ¶99

# GPRS: “The Base Station, Not The Subscriber Unit, Selects The Physical Channels”

Response at 18

## DECLARATION OF DR. WAYNE E. STARK



68. GPRS (along with IS-95, IS-657, and CDPD) uses the standard prior art approach to select physical channels. In this approach, when the subscriber unit has data to send, it requests channels from the base station. The base station then selects the cellular physical channels for the subscriber unit to use, and informs the subscriber unit of the selection. The subscriber unit then uses the channels selected by the base station to send data. Thus, the base station (or more precisely, the cellular network, via the base station) selects the cellular physical channels for use – not the subscriber unit, as required by the agreed-upon construction.

Ex. 2005 (Stark Decl.) at ¶68

# GPRS: "The Base Station, Not The Subscriber Unit, Selects The Physical Channels"

Response at 18



**Harry Bims, Ph.D.**  
Petitioner's IPR Expert

19 Q. So in GPRS the cell allocates resources on one or  
20 several physical channels; right?

21 A. That's correct.

\*

\*

\*

4 Q. So these physical channels are already available or, in  
5 the terms of the '244 patent, assigned; right?

6 MR. JONES: Objection; form, foundation.

7 A. So these channels are assigned to individual mobile  
8 stations in GPRS.

Ex. 2006 (Bims Tr.) at 39:19-21, 40:4-8



# GPRS: "The Base Station, Not The Subscriber Unit, Selects The Physical Channels"

Response at 18



**Steven W. McLaughlin, Ph.D.**  
Petitioner's Litigation Expert

15 Q. Okay. So according to the GPRS standard,  
16 the network uses the uplink state flag to tell the  
17 mobile station to transmit data on the PDCH  
18 corresponding to that uplink state flag. Right?

19 **A. Yeah, that appears to be what's happening,**  
20 **yes.**

Ex. 2010 (McLaughlin Tr.) at 131:15-20

# **Agreed Construction Of “Communication Session”**

# The Parties Agree A “Communication Session” Is A “Logical Connection” For This IPR

## SECOND CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244

this term. For purposes of this petition only, and for the reasons explained below, ZTE submits that InterDigital’s proposed construction of this term (shown in bold text below) should be adopted.

InterDigital
<b>maintain a logical connection with the cellular wireless network when none of the plurality of physical channels are in use by the subscriber unit</b>

Petition at 14

# “Surrounding Claim Language”: “Connection . . . Is Necessarily Logical”

Response at 15

The invention claimed is:

1. A subscriber unit comprising:

a cellular transceiver configured to communicate with a cellular wireless network via a plurality of assigned physical channels;

an IEEE 802.11 transceiver configured to communicate with an IEEE 802.11 wireless local area network; and

a processor configured to maintain a communication session with the cellular wireless network in an absence of the plurality of assigned physical channels while the IEEE 802.11 transceiver communicates packet data with the IEEE 802.11 wireless local area network.

Ex. 1001 ('244 Patent) at Claim 1

# A “Logical Connection” “Confirmed By The Specification”

Response at 16

In one preferred embodiment, the second wireless digital communication path is provided by establishing a logical connection using a higher layer protocol, such as a network layer protocol, from a subscriber unit, such as may be connected to a portable computer node, to an intended peer node, such as another computer. The network layer logical connection is made through a wireless channel which provides a physical layer connection between the portable computer node, through a base station, and the intended peer node. In response to relatively low utilization of the wireless channel, the physical layer channel is released while maintaining the appearance of a network layer connection to the higher level protocols.

This has two consequences. First, it frees wireless channel bandwidth for use by other subscriber units, without the overhead associated with having to set up an end to end connection each time that data needs to be transferred. In addition, and perhaps more importantly, by allocating wireless channels only when needed, the bandwidth necessary to provide a

Ex. 1001 ('244 Patent) at 4:5-26

**Jawanda:  
No Logical Connection With  
The Cellular Wireless Network,  
While Using The WLAN**

## Jawanda's "Optionally Maintain[ed]" WWAN Connection

**The "communication session with the cellular wireless network" is a "logical connection with the cellular wireless network"**

Petition at 15, Response at 15

**"Nothing in Jawanda Suggests That the Cellular Connection That is Optionally "Maintained" Is Anything But A Standard End-to-End Connection Using Physical Channels"**

Response at 29

# Petitioner's IPR Expert Admits Optionally Maintaining The Cellular Connection Means It Continues to Exist or is Active

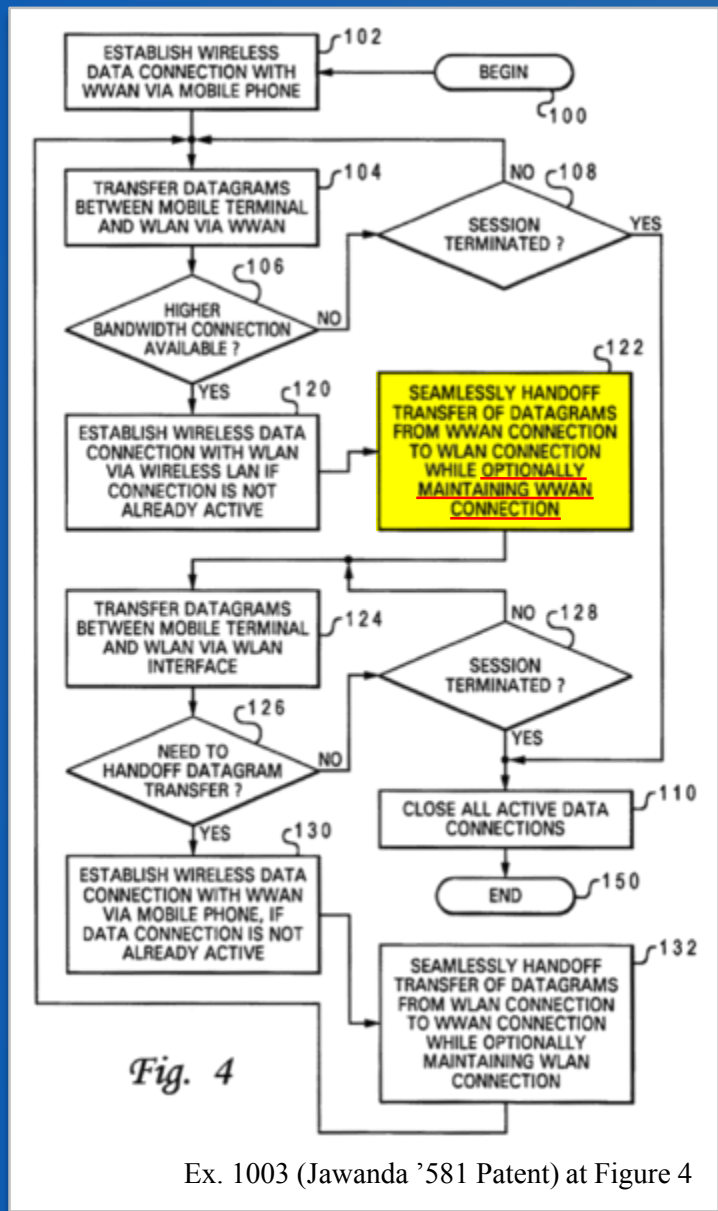


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4



**Harry Bims, Ph.D.**  
Petitioner's IPR Expert

22 Q. Right. And what you are referring to, as I understand  
1 it, is the discussion of optionally maintaining the WWAN  
2 connection in Box 122 of Figure 4.

3 Is that right?

4 MR. JONES: Objection; foundation, form.

5 A. So in Block 122 it talks about the seamless handoff of  
6 datagrams from the WWAN connection to the WLAN  
7 connection, and there's an option in this block to  
8 maintain the WWAN connection when that rerouting of  
9 datagrams through a seamless handoff has occurred.

\* \* \*

19 Q. Just so we're clear here, "maintain" means "continues to  
20 exist after it's been established"; right?

21 A. Right.

22 Continues to exist or is active as is called  
1 for, yes.

Ex. 2006 (Bims Tr.) at 52:22-53:9, 12:19-13:1



# Petitioner's Litigation Expert Admits The "Optionally Maintained" Cellular Connection Is "Active"



**Steven W. McLaughlin, Ph.D.**

**Petitioner's Litigation Expert**

23 MS. HOLLOWAY: Can we see Dr.  
24 McLaughlin's deposition at 65, lines 15 through  
1 19?  
2 BY MS. HOLLOWAY:  
3 Q. Okay. So talking about this figure in  
4 Jawanda, I said:  
5 "If the wireless data connection  
6 with the cellular WWAN is already active in box  
7 130, that's because it was maintained and  
8 therefore remained active in box 122. Right?  
9 **"Answer: Yes."**  
10 Did you give that testimony?  
11 **A. I gave that testimony, but I think you are**  
12 **talking here about box 130. The question is**  
13 **about box 130, not about --**  
14 Q. And about box 122.  
15 **A. Yes.**  
16 Q. But the point is if the cellular WWAN is  
17 maintained, it is active.  
18 MS. HOLLOWAY: Can we have that back  
19 up, please?  
20 BY MS. HOLLOWAY:  
21 Q. If the cellular connection is maintained,  
22 it is active. That's what you said?  
23 **A. Yes. Yes.**

Ex. 2015 (Delaware Trial Tr.) at 1118:23-1119:23

# Petitioner's Litigation Expert Admits An Active Connection Is "In Use"



**Steven W. McLaughlin, Ph.D.**  
**Petitioner's Litigation Expert**

11 MS. HOLLOWAY: Can we have Dr.  
12 McLaughlin's 2013 deposition, page 189, line 22  
13 to 190, line 4.

14 BY MS. HOLLOWAY:

15 Q. "First of all, in general, what is an  
16 active connection in the context of wireless  
17 communications?

18 **"Answer: Again, broad strokes, it**  
19 **would be a connection that's active, i.e. being**  
20 **used or -- I think of a connection that's being**  
21 **used, a wireless link that's being used."**

22 Did you give that testimony under  
23 oath, Doctor?

24 **A. Yes.**

Ex. 2015 (Delaware Trial Tr.) at 1120:11-24

# Jawanda Teaches Concurrent Connections, Optionally Maintained

adapter 64 by wireless communication. Thus, following block 120, the user has concurrent wireless data connections with both WWAN 10 and WLAN 12. Then, as depicted at

Ex. 1003 (Jawanda '581 Patent) at 5:32-34

**WHILE OPTIONALLY MAINTAINING WWAN CONNECTION**

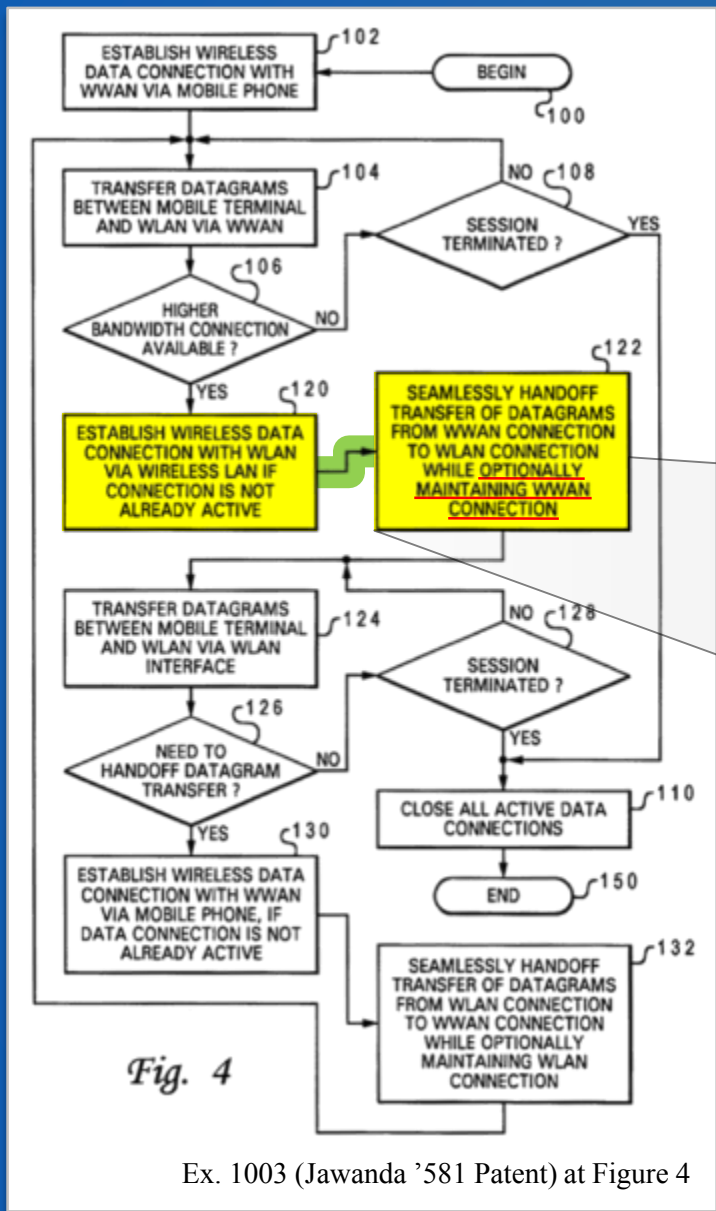


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

# Jawanda: Wireless Cellular Connection Established

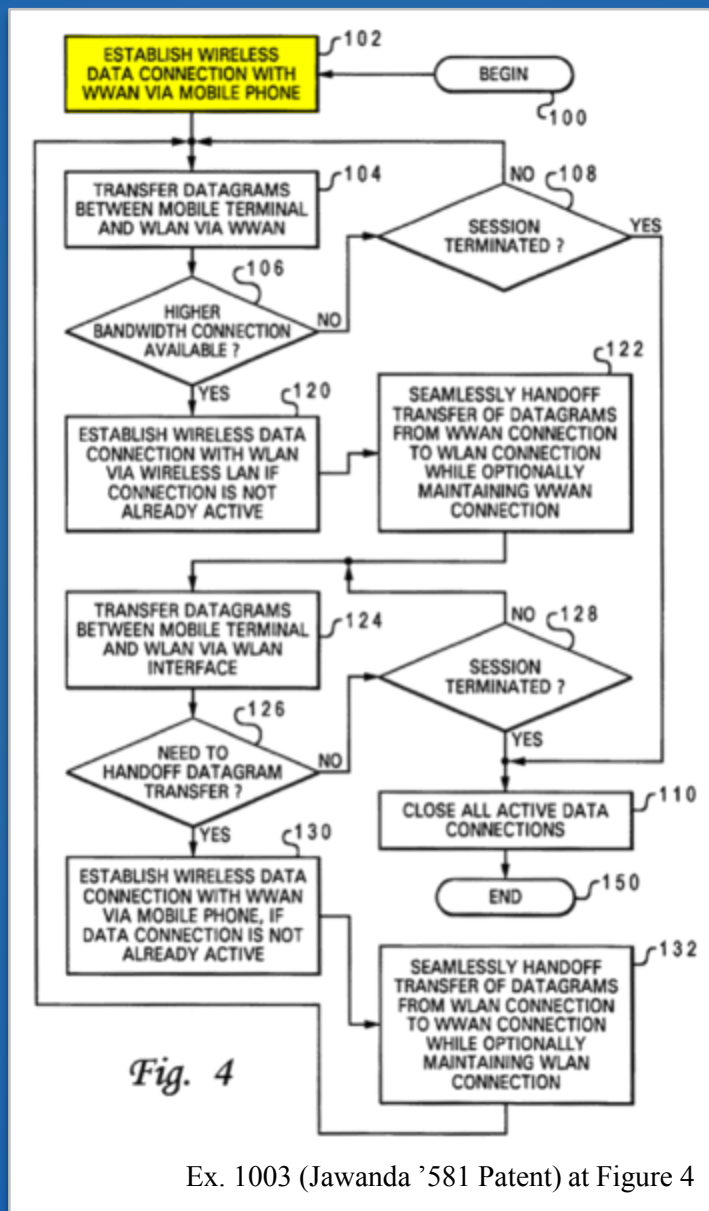


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

# Jawanda: Established Cellular Connection Used

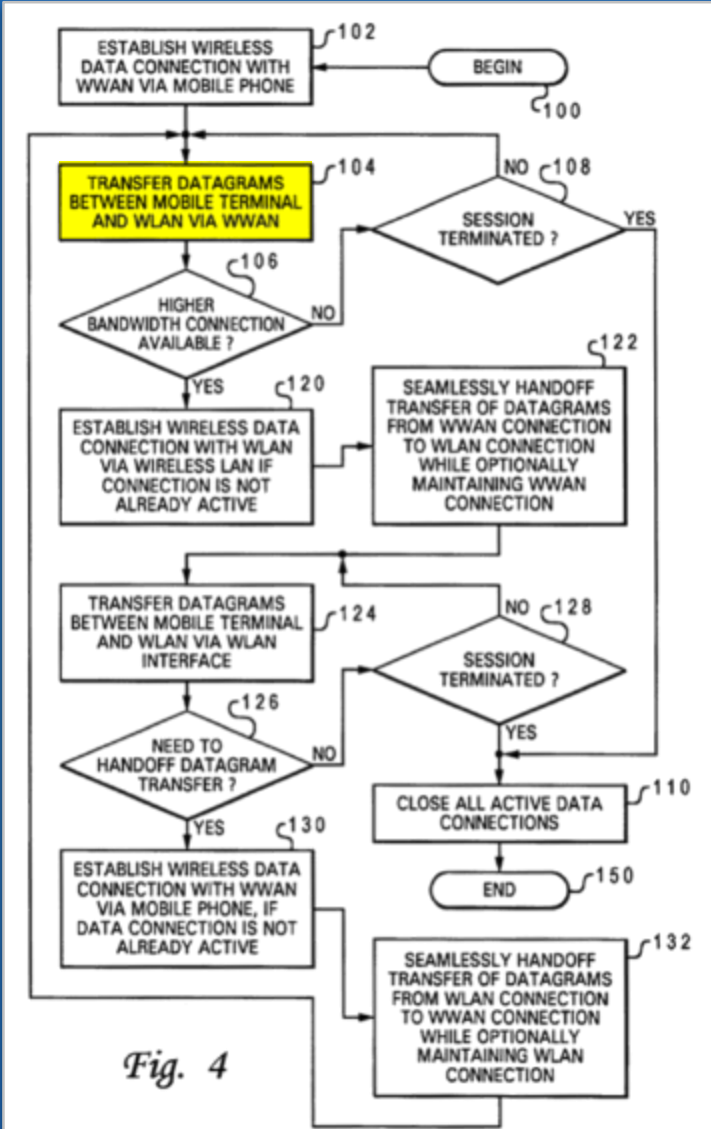


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

# Jawanda: Use WLAN, Optionally Maintain Cellular Connection

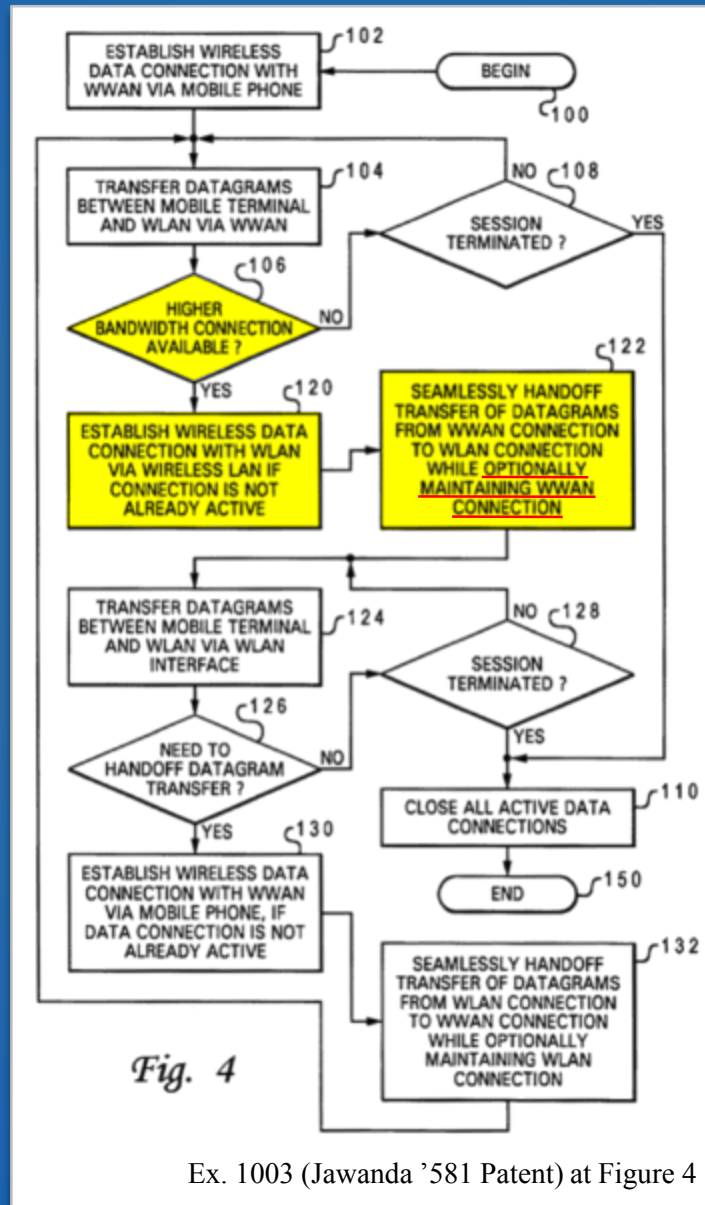


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

# Jawanda: Establish Cellular Connection If "Not Already Active"

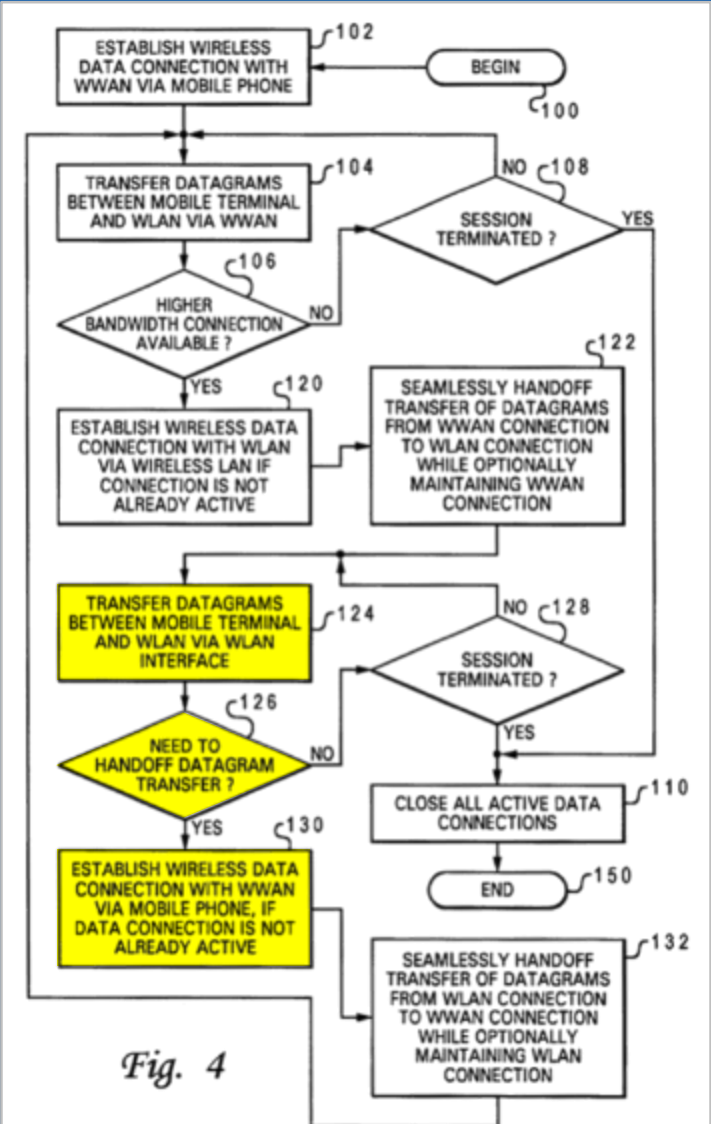


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

# Jawanda: "If The Cellular Connection Is 'Maintained,' It Is 'Active'"

Response at 31

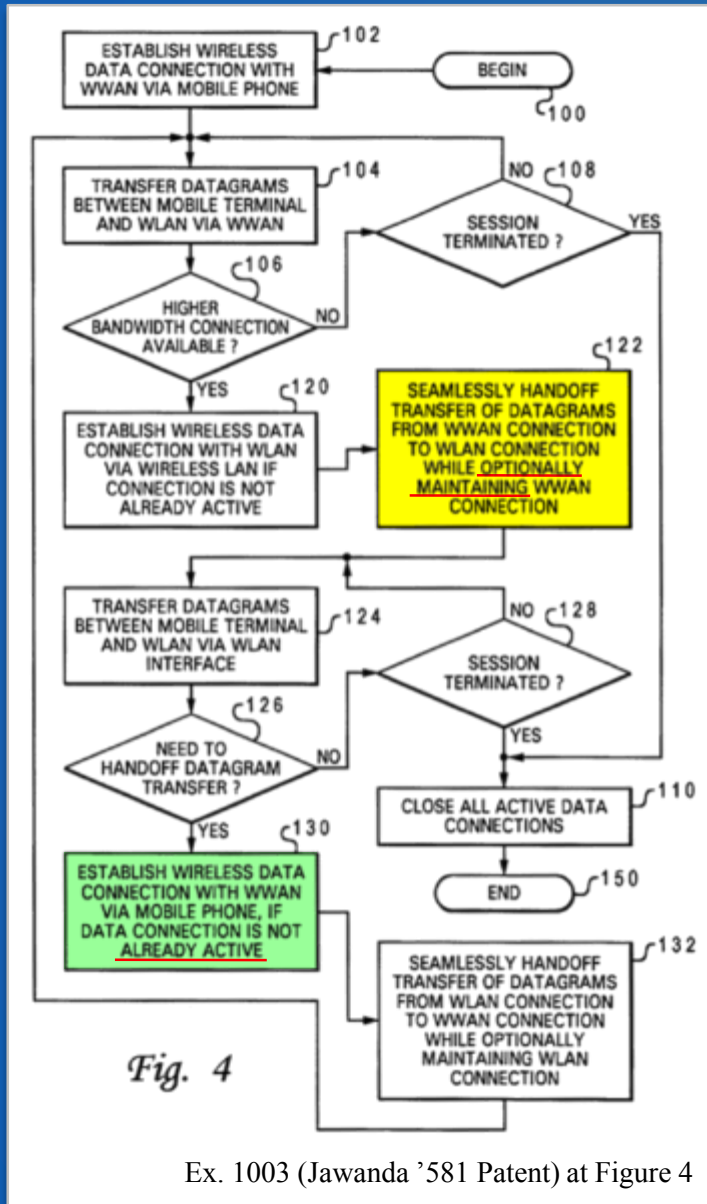


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

"The WWAN connection will only be active . . . if it was maintained in block 122"

Response at 31



# Jawanda: “Close All Active Data Connections”

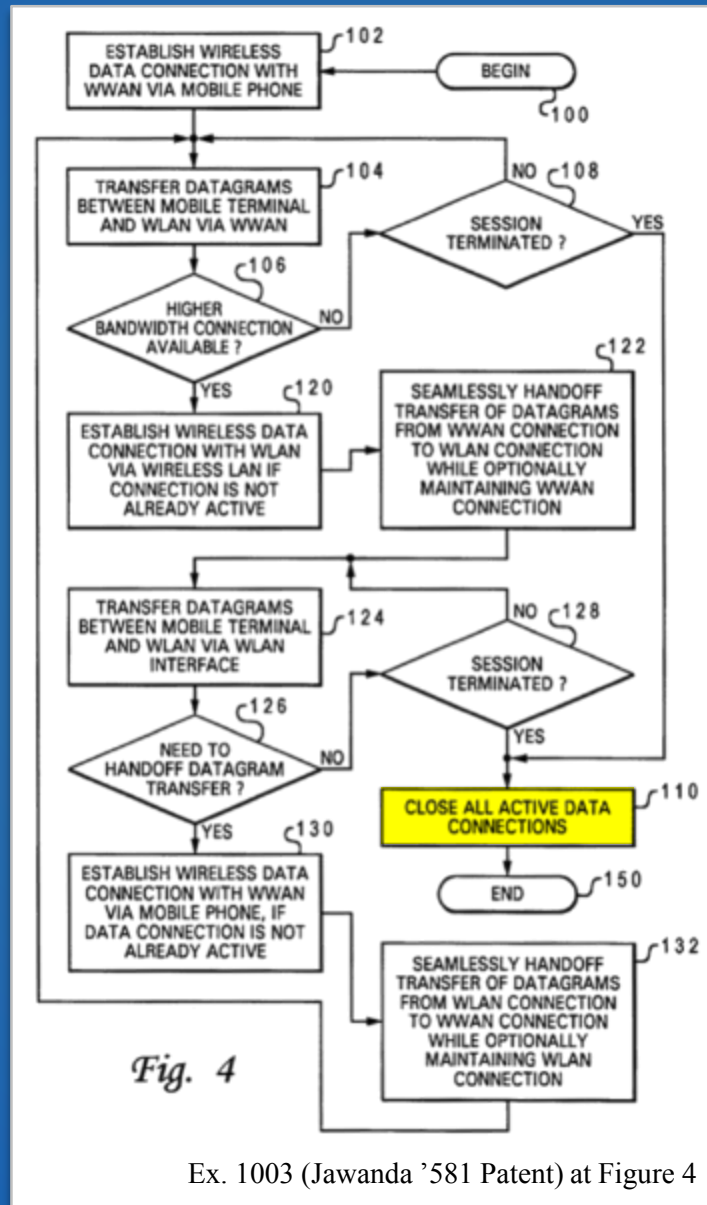


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

# The Cellular Connection in Jawanda is Established, Used, and Either Maintained or Terminated

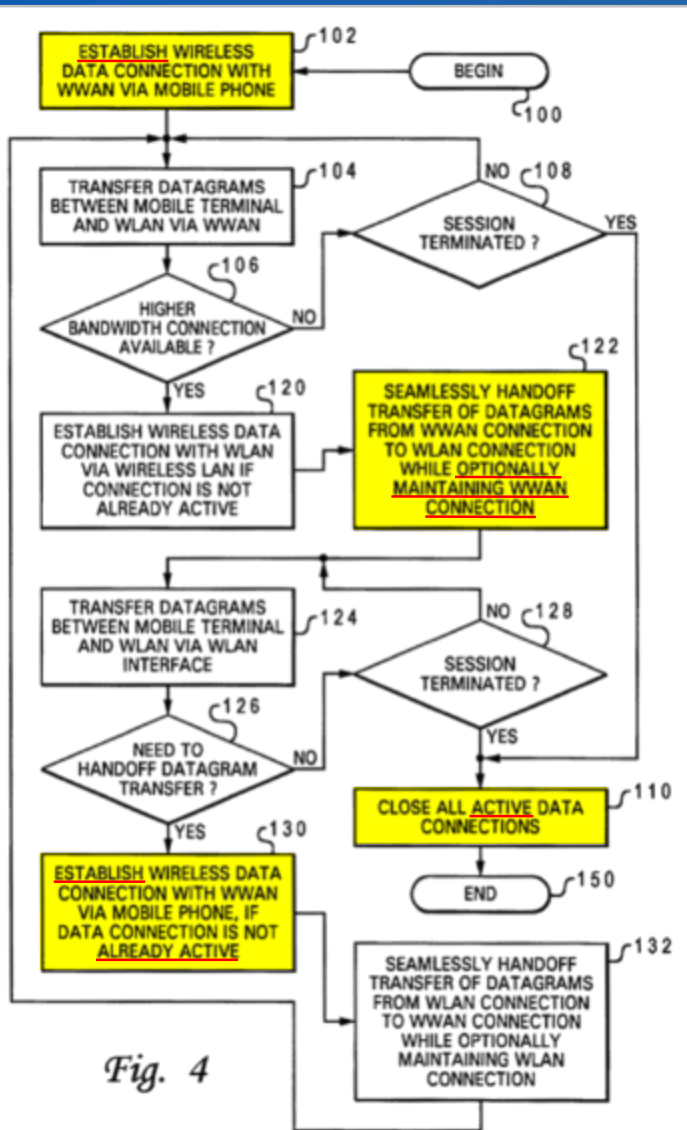


Fig. 4

Ex. 1003 (Jawanda '581 Patent) at Figure 4

## DECLARATION OF DR. WAYNE E. STARK

117. Even under ZTE's new interpretation of "active," it is my opinion that Jawanda does not disclose maintaining a logical connection, as required by the claims. Figure 4 in block 102 describes "establish[ing] [the] wireless data connection with [the] WWAN." See ZTE Ex. 1003 (Jawanda) at Fig. 4. This connection, at the next block 104, is used to "transfer datagrams," and therefore, necessarily includes physical channels. See *id.*; see also Ex. 2006 (Bims Tr.) at 76:8-22. This is the same "WWAN connection" "optionally maintain[ed]" at block 122. See ZTE Ex. 1003 (Jawanda) at Fig. 4. In other words, the "wireless data connection" "optionally maintain[ed]" at block 122 includes physical channels, and therefore includes a physical connection with the cellular network.

Ex. 2005 (Stark Decl.) at ¶117

# **Petition And Expert Assert Several Different Theories For Logical Connection**

**Maintaining the “Application Session”**

**Mobile IP (Not Briefed by Petitioner)**

# The Experts Agree: The “Application Session” Is Not The Claimed “Logical Connection”



UNITED STATES PATENT  
BEFORE THE PATENT  
ZTE CORPORATION

112. The “application-level session” is not maintained “with the cellular wireless network,” as required by claim 1, but instead it is maintained between “applications 90 and 91,” running on “mobile terminal 14” and fixed terminal 24.” ZTE Ex. 1003 (Jawanda) at 5:20-42, 6:11-15; Fig. 1. When the mobile terminal transmits datagrams over the WLAN, the “application-level session” is maintained over the WLAN. See *id.* at 5:34-39. In other words, the “application-level session” is not a “communication session [i.e., logical connection] with a cellular wireless network,” as required by claim 1. Notably, Dr. Bims conceded at his Ex. 2005 (Stark Decl.) at ¶112



**Harry Bims, Ph.D.**  
Petitioner’s IPR Expert

Q. Okay. And are you saying that this application session that you say would have to exist is a communication session that is maintained with the cellular network, as required by the claims?

MR. JONES: Objection; foundation, form.

**A. The communication session that is maintained as required by the claims is a communication session between the subscriber unit and either the WLAN or the WWAN, which is different from an application session between two end points.**

Ex. 2006 (Bims Tr.) at 121:8-17

# Dr Bims' Change In Position On Application Session



**Harry Bims, Ph.D.**

**Petitioner's IPR Expert**

8 Q. Okay. And are you saying that this application session  
9 that you say would have to exist is a communication  
10 session that is maintained with the cellular network, as  
11 required by the claims?

12 MR. JONES: Objection; foundation, form.

13 **A. The communication session that is maintained as required**  
14 **by the claims is a communication session between the**  
15 **subscriber unit and either the WLAN or the WWAN, which**  
16 **is different from an application session between**  
17 **two end points.**

Ex. 2006 (Bims Tr.) at 121:8-17

# Dr Bims' Change In Position On Application Session



**Harry Bims, Ph.D.**

**Petitioner's IPR Expert**

18 Now, you testified for ZTE and Nokia in an ITC  
19 investigation; right?

20 **A. Yes.**

21 Q. Okay. And in that case, you took the position that the  
22 application session in Jawanda is a communication  
1 session that is maintained with the cellular network  
2 when the physical channels are released; right?

3 MR. JONES: Objection; scope, form,  
4 foundation.

5 **A. Yes.**

Ex. 2006 (Bims Tr.) at 123:18-124:5

# Mobile IP “Connection” Is With the WLAN, Not the Cellular Network



120. Notably, the “home agent” is independent of the cellular network. In other words, when the mobile station in Jawanda transfers data over the WLAN, as required by the last element of claim 1, the Mobile IP connection is with the WLAN and not with the cellular wireless network. Dr. Bims conceded this at his

Ex. 2005 (Stark Decl.) at ¶120



**Harry Bims, Ph.D.**  
Petitioner’s IPR Expert

20 Q. Okay. So if that point of attachment is the WLAN, then  
21 the logical connection you're pointing to is between the  
22 mobile node and the WLAN; right?

1 MR. JONES: Objection; foundation.

2 **A. The logical connection would be between those two, yeah.**

Ex. 2006 (Bims Tr.) at 117:20-118:2

# **PDP Context In GPRS**



# “Jawanda Teaches Only To Use GPRS ‘Data Connections’ In Order To Transmit ‘Wireless Signals’”

Response at 34

16. For data connections, such wireless signals can be transmitted according to any currently available or future wireless data protocol such as code division multiple access (CDMA), CDPD, or GPRS. Base station 30 is further

Ex. 1003 (Jawanda '581 Patent) at 3:6-9

## DECLARATION OF DR. WAYNE E. STARK



1003 (Jawanda) at 3:6-8. In other words, Jawanda teaches using GPRS for “data connection[s]” to transmit “wireless signals,” i.e., physical connections. It does not teach or suggest using the other features of GPRS that Dr. Bims relies on, such as PDP context and Mobility Management.

Ex. 2005 (Stark Decl.) at ¶130

DECLARATION OF DR. WAYNE E. STARK

DECLARATION OF DR. WAYNE E. STARK

Wayne E. Stark, Ph.D., is a Professor of Electrical and Computer Engineering at the University of

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10000 100th Ave.  
P.O. Box 10000  
P.O. Box 10000

10

Ex. 2005-0097

# Nothing in Jawanda Suggests Maintaining a Logical Connection With The Cellular Network

Response at 31

Jawanda teaches using “data connections . . . according to any currently available or future wireless data protocol such as . . . CDPD or GPRS”

Response at 34, Jawanda (Ex. 1003) at 3:6-9

Jawanda teaches “optionally maintaining” an “active” cellular connection

Response at 30-31, Jawanda (Ex. 1003) at Fig. 4 blocks 122 and 130

# Petitioner's Expert Dr. Bims Fails To Show That GPRS Included Maintaining PDP Context When Physical Channels Are Not In Use

## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



These procedures are used to establish, maintain and release a MM connection between the mobile station and the network, over which an entity of the upper CM layer can exchange information with its peer. A MM connection establishment can only be performed if no MM specific procedure is running. More than one MM connection may be active at the same time.

Ex. 1005.05 [GPRS Standards, GSM 04.08 v. 6.1.1] at §4.1.1 Type of MM procedures.

Ex. 1002 (Bims Decl.) at ¶200

# "Says Nothing About PDP Context"

Response at 35

# Petitioner's Expert Dr. Bims Fails To Show That GPRS Included Maintaining PDP Context When Physical Channels Are Not In Use

## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



Session Management services are provided at the SMREG-SAP and the SNSM-SAP for anonymous and non-anonymous access. The non-anonymous and anonymous access procedures for PDP context activation and PDP context deactivation are available at the SMREG-SAP. In addition there exists a PDP context modification for non-anonymous PDP contexts.

Ex. 1005.04 [GPRS Standards, GSM 04.07 v. 6.1.0] at §6.5 Session Management Services for GPRS-Services.

Ex. 1002 (Bims Decl.) at ¶201

# “Says Nothing About The Physical Radio Link, Or Physical Channels”

Response at 35-36

ZTE Corporation and ZTE (USA) Inc.  
Exhibit 1002-00054

# Petitioner's Expert Dr. Bims Fails To Show That GPRS Included Maintaining PDP Context When Physical Channels Are Not In Use

## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



In the non-anonymous access case, the MM state relates only to GPRS MM activities of a subscriber. The MM state is independent of the number and state of PDP contexts for that subscriber.

Ex. 1005.03 [GPRS Standards, GSM 03.60 v. 6.1.1] at §6.1 Definition of Mobility Management

Ex. 1002 (Bims Decl.) at ¶203

**“Says Nothing About The Physical Radio Link, Or Physical Channels”**

Response at 36

# Dr. Bims Admits Mobility Management Relates to Tracking Movement



**Harry Bims, Ph.D.**  
Petitioner's IPR Expert

21 Q. So returning to my question, mobility management states,  
22 do they at all relate to physical channels or physical  
1 links, as you discussed with Ms. Holloway during your  
2 cross-examination?

3 A. So mobility management states relate to the tracking of  
4 the movement of the subscriber unit, which is different  
5 from the transmission of datagrams through these  
6 PDCH channels, as I described in my declaration.

Ex. 2006 (Bims Tr.) at 174:21-175:6

# Dr. Bims' Prior Position



## REBUTTAL WITNESS STATEMENT OF

DR. HARRY BIMS

JANUARY 18, 2013

**Q275) Is maintaining a PDP Context the same thing as maintaining a communication session?**

A) It follows from the analysis I just testified about, that a collection of information that merely describes a communication path (a PDP Context) is not a “connection” within the meaning of the 970 Patent, and thus not a communication session even under InterDigital’s construction. Thus, after the release of all physical layer channels, the mere existence of a PDP Context establishes neither “the appearance to higher layers in the cellular layered communications protocol of an active physical layer connection is maintained” (Respondents’ construction of this limitation), nor is “a connection above the physical layer maintained” (InterDigital’s construction).

Ex. 2017 at Q275

# Petitioners' Litigation Expert On PDP Context



**Steven W. McLaughlin, Ph.D.**  
**Petitioner's Litigation Expert**

8 Q. ... Okay. And it's your opinion,  
9 Doctor, that PDP context and CDMA session are not  
10 logical connections; right?  
11 **A. That's right.**

Ex. 2015 (Delaware Trial Tr.) at 1074:8-11



# Draft GPRS Documents

# “The Various GPRS Documents Cannot Be Considered A Single Reference”

Response at 41

“Indeed, the GSM standard includes hundreds of individual specifications . . . each with its own title and separate page numbering. Each specification, though part of the greater GSM standard, stands as a separate document in its own right . . . Under these circumstances, the GSM standard is actually several prior art references with separate dates of creation, rather than a single prior art reference.”

*Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1351 (Fed. Cir. 2008)

# GSM 3.60 Underwent At Least 10 Revisions

## DECLARATION OF DR. WAYNE E. STARK



132. Moreover, a person of ordinary skill in the art would not have been motivated to implement a system using draft documents. If a person of ordinary skill were to implement a draft standard they would likely end up with a non-compliant product. Indeed, as noted above, GSM 3.60 underwent at least ten additional revisions after version 6.1.1. *See id.* Had persons of skill attempted to build a system using version 6.1.1, they likely would have ended up with a product that did not work.

Ex. 2005 (Stark Decl.) at ¶132

# In Reply, Petitioner Relies On Draft Document, GSM 3.60, That Was Not Part of The Standard



**Draft EN 301 344 v6.1.1 (1998-08)**  
*European Standard (Telecommunications series)*

\* \* \*

**Digital cellular telecommunications system (Phase 2+);  
General Packet Radio Service (GPRS);  
Service description;  
Stage 2  
(GSM 03.60 version 6.1.1 Release 1997)**

Ex. 1005.03



1002 (Bims Decl.) at ¶¶ 202-203. A person of skill in the art in 1999 would have understood Jawanda's reference to "any currently available or future wireless data protocol" to refer to actual standards, as opposed to drafts. Moreover, a person of ordinary skill in the art would have understood that in order to build devices that are interoperable with cellular networks you have to rely on the specifications that are in the actual approved final standard. Indeed, Dr. McLaughlin, ZTE's expert in

Ex. 2005 (Stark Decl.) at ¶131

# In Reply, Petitioner Relies On Draft Document, GSM 3.60, That Was Not Part of The Standard



**Wayne E. Stark, Ph.D.**  
Patent Owner's IPR Expert

Q. And the document that Dr. Bims relied on, this Exhibit 1005.03, was just a draft version of that GPRS wireless data protocol?

A. It was a draft that was modified many times until it got to 6.11. There was 6.1, 6.-- This is 6.1.1, and there was 6.2, 6.3, 4, 5, 6, 7, 8, 9, 10, and then 11. So there was, you know, I guess 10 different versions that were -- existed until it got to the release 97 version.

Ex. 1025 (Stark Tr.) at 93:19-94:3

# Jawanda Teaches Relying On An Actual Cellular Standard

16. For data connections, such wireless signals can be transmitted according to any currently available or future wireless data protocol such as code division multiple access (CDMA), CDPD, or GPRS. Base station 30 is further

Ex. 1003 (Jawanda '581 Patent) at 3:6-9

## DECLARATION OF DR. WAYNE E. STARK



1002 (Bims Decl.) at ¶¶ 202-203. A person of skill in the art in 1999 would have understood Jawanda's reference to "any currently available or future wireless data protocol" to refer to actual standards, as opposed to drafts. Moreover, a person of ordinary skill in the art would have understood that in order to build devices that are interoperable with cellular networks you have to rely on the specifications that are in the actual approved final standard. Indeed, Dr. McLaughlin, ZTE's expert in

Ex. 2005 (Stark Decl.) at ¶131

# Jawanda Teaches Conforming To A Standard

16. For data connections, such wireless signals can be transmitted according to any currently available or future wireless data protocol such as code division multiple access (CDMA), CDPD, or GPRS. Base station 30 is further

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**Steven W. McLaughlin, Ph.D.**

**Petitioner's Litigation Expert**

1 Q. ... Now, you told the jury yesterday  
2 that Jawanda describes conforming to a  
3 standard; right?

4 **A. That makes sense. I can't -- yes,**  
5 **probably.**

Ex. 2015 (Delaware Trial Tr.) at 1109:1-5

# Jawanda Teaches Using A Standard

16. For data connections, such wireless signals can be transmitted according to any currently available or future wireless data protocol such as code division multiple access (CDMA), CDPD, or GPRS. Base station 30 is further

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## DECLARATION OF DR. HARRY BIMS IN SUPPORT OF THE PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,380,244



In order to implement the GPRS protocol suggested by Jawanda, a person having ordinary skill in the art would use the GPRS standards available at the time of the Jawanda patent. The GPRS

Ex. 1002 (Bims Decl.) at ¶166



# Dr. Bims' Unsupported New Theory That A Developer Would Look To Drafts



**Harry Bims, Ph.D.**

**Petitioner's IPR Expert**

16 BY MS. HOLLOWAY:

17 Q. But you did not participate in the ETSI standards  
18 development during the relevant time period. You've  
19 already testified to that.

20 A. That's correct. **That's correct.**

21 Q. Okay. So you don't have any personal knowledge of what  
22 people within ETSI did with respect to drafts?

1 A. **None other than what I've read from their rules.**

2 Q. Right. And the rules indicate that documents are  
3 published but don't say anything about vendors using  
4 them to make products when they're not final; right?

5 MR. JONES: Objection; foundation, form.

6 A. The rules themselves do not instruct vendors on when to  
7 **begin development.**

Ex. 2006 (Bims Tr.) at 27:16-28:7

# A Developer Would Not Look To Draft Standards

## DECLARATION OF DR. WAYNE E. STARK



protocol” to refer to actual standards, as opposed to drafts. Moreover, a person of ordinary skill in the art would have understood that in order to build devices that are interoperable with cellular networks you have to rely on the specifications that are in the actual approved final standard. Indeed, Dr. McLaughlin, ZTE’s expert in

\* \* \*

motivated to implement a system using draft documents. If a person of ordinary skill were to implement a draft standard they would likely end up with a non-compliant product. Indeed, as noted above, GSM 3.60 underwent at least ten additional revisions after version 6.1.1. *See id.* Had persons of skill attempted to build a system using version 6.1.1, they likely would have ended up with a product that did not work.

Ex. 2005 (Stark Decl.) at ¶¶131-132

# Jawanda Refers To Actual Standards, Not Drafts

## DECLARATION OF DR. WAYNE E. STARK



1002 (Bims Decl.) at ¶¶ 202-203. A person of skill in the art in 1999 would have understood Jawanda's reference to “any currently available or future wireless data protocol” to refer to actual standards, as opposed to drafts. Moreover, a person of

\* \* \*

“conforming to a standard.” See Ex. 2015 (Delaware Trial Tr.) at 1109:1-5. The draft documents Dr. Bims cites are not part of Release 97, or a final standard. For example, GSM 3.60 v. 6.1.1 was not part of Release 97, but instead underwent at least ten subsequent revisions before being finalized in the standard. See Ex. 2019 (Release Version Matrix) at 8; Ex. 2020 (GSM 3.60 v. 6.11.0) at 1.

Ex. 2005 (Stark Decl.) at ¶131

Ex. 2005  
ZTE Corp. v. IPK Licensing, Inc.  
IPR2014-00325

Ex. 2005-0001

51

Ex. 2005-0007

# **Petitioners' New "Idle State" Theory**

# Petitioner's New Draft-Based "Idle State" Theory

Reply at 12

Claim requires "a processor configured to maintain a communication session . . . *while* the IEEE 802.11 transceiver communicates packet data."



**Wayne E. Stark, Ph.D.**

Patent Owner's IPR Expert

22 Q. And then in this version of 03.60, the PDP  
23 context can remain in the active state even after the  
24 subscriber unit finishes transmitting data, correct?

1 A. Yes, until the timer expires or something like  
2 that.

Ex. 1025 (Stark Tr.) at 87:22-88:2

# The Experts Agree: Jawanda Says Nothing About Any "Idle State" or "Timer" – The Cellular Connection Remains "Active"



timer. See Ex. 2006 (Bims Tr.) at 161:5-163:2. But Jawanda, as Dr. Bims conceded, does not describe entering into an "idle" state or use of a timer. See *id.* Moreover, Jawanda explicitly notes that the "optionally" maintained WWAN connection is an "active," as opposed to an "idle," connection.

Ex. 2005 (Stark Decl.) at ¶116



## Harry Bims, Ph.D. Petitioner's IPR Expert

21 Q. Uh-huh. So Jawanda does not use the term "idle" in  
22 connection with the WWAN cellular connection?

1 A. It doesn't expressly use that word.

\* \* \*

22 Q. ... There is no mention of this timer you've talked  
1 about in Jawanda; right?

2 A. That's correct.

Ex. 2006 (Bims Tr.) at 161:21-162:1, 162:22-163:2

Patent 2015  
ZTE Corp. v. IPR Licensing, Inc.  
IPR 2014-01025

Ex. 2005-0001

Ex. 2005-0050

# The Optionally Maintained Connection In Jawanda Is "Active," Not "Idle"



timer. *See* Ex. 2006 (Bims Tr.) at 161:5-163:2. But Jawanda, as Dr. Bims conceded, does not describe entering into an "idle" state or use of a timer. *See id.* Moreover, Jawanda explicitly notes that the "optionally" maintained WWAN connection is an "active," as opposed to an "idle," connection.

Ex. 2005 (Stark Decl.) at ¶116

115. In 1999, a person of ordinary skill in the art would have understood that an "active" connection means that the physical channels are being used, i.e., the physical channels would not be absent as required by the claim. Indeed, Dr. McLaughlin, ZTE's expert in the District Court Case, conceded that an "active" connection is "a connection that's being used, a wireless link that's being used."

Ex. 2015 (Delaware Trial Tr.) at 1120:11-24. Such an "active" connection could

Ex. 2005 (Stark Decl.) at ¶115

# Inherency



# Inherency: Jawanda Does Not Require GPRS

16. For data connections, such wireless signals can be transmitted according to any currently available or future wireless data protocol such as code division multiple access (CDMA), CDPD, or GPRS. Base station 30 is further

Ex. 1003 (Jawanda '581 Patent) at 3:6-9



**Harry Bims, Ph.D.**

**Petitioner's IPR Expert**

3 Q. Okay. Now, the dual-mode device described in Jawanda  
4 does not necessarily use GPRS; right?

5 **A. The dual-mode device in Jawanda can use any cellular  
6 protocol available at the time or future that fits  
7 within the three categories we mentioned.**

8 Q. Exactly. So it doesn't have to use GPRS; right?

9 **A. It doesn't have to be, yes, that's correct.**

10 Q. Okay. It could use, for example, CDPD instead?

11 **A. That's possible, yes.**

Ex. 2006 (Bims Tr.) at 22:3-11

# Inherency: Jawanda Does Not Require GPRS Release 97

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Ex. 1003 (Jawanda '581 Patent) at 3:6-9



**Harry Bims, Ph.D.**

**Petitioner's IPR Expert**

22 Q. ... Okay. And, also, if the dual-mode device  
1 described in Jawanda did use GPRS, it could use a  
2 release that was earlier than Release 97; correct?

3 MR. JONES: Objection; form, foundation.

4 **A. It could use any version of GPRS available at the time**  
5 **or future version, yes.**

Ex. 2006 (Bims Tr.) at 22:22-23:5

# Inherency: Jawanda Does Not Require Multiple GPRS Channels



**Harry Bims, Ph.D.**  
Petitioner's IPR Expert

15 Q. ... If the dual-mode device described in Jawanda did  
16 use GPRS Release 97, it could use only one physical  
17 channel; right?

18 MR. JONES: Objection; form, foundation.

19 **A. It's possible in GPRS to use one physical channel, yes.**

Ex. 2006 (Bims Tr.) at 22:15-19

# **No Motivation To Combine Jawanda With Draft GPRS Documents**

# Jawanda Teaches Using An Actual Final Standard

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In order to implement the GPRS protocol suggested by Jawanda, a person having ordinary skill in the art would use the GPRS standards available at the time of the Jawanda patent. The GPRS

Ex. 1002 (Bims Decl.) at ¶166

# GSM 3.60 Version 6.2.1 Was Not Part Of Release 97

## DECLARATION OF DR. WAYNE E. STARK



The document that ZTE and Dr. Bims rely on is marked “Draft,” confirming that it is not part of a final approved specification. *See* ZTE Ex. 1005.03 (GSM 3.60 v. 6.1.1) at 1. Indeed, this document, GSM 3.60 v. 6.1.1, was not part of Release 97, but instead underwent multiple subsequent revisions before being finalized in the standard. *See* Ex. 2019 (Release Version Matrix) at 8; Ex. 2020 (GSM 3.60 v. 6.11.0) at 1. Thus, there would be no motivation to combine it with Jawanda

Ex. 2005 (Stark Decl.) at ¶40

IPR Licensing, Inc.  
Exhibit 2005  
ZTE Corp v. IPR Licensing, Inc.  
IPR2014-00525

Ex. 2005-0004

16

Ex. 2005-0019



# GSM 3.60 Version 6.2.1 Was Not Part Of Release 97

## DECLARATION OF DR. WAYNE E. STARK



“conforming to a standard.” See Ex. 2015 (Delaware Trial Tr.) at 1109:1-5. The draft documents Dr. Bims cites are not part of Release 97, or a final standard. For example, GSM 3.60 v. 6.1.1 was not part of Release 97, but instead underwent at least ten subsequent revisions before being finalized in the standard. See Ex. 2019 (Release Version Matrix) at 8; Ex. 2020 (GSM 3.60 v. 6.11.0) at 1.

Ex. 2005 (Stark Decl.) at ¶131

Before SALLY C. JACOBSON and BEVERLY M. BUNTING, Administrative Patent Judges.

DECLARATION OF DR. WAYNE E. STARK

IPR Licensing, Inc.  
Exhibit 2005  
ZTE Corp v. IPR Licensing, Inc.  
IPR2014-00525

Ex. 2005-0004

GSM 2.60 v. 7.0.0, GSM 3.60 v. 6.4.0, GSM 3.64 v. 7.0.0, GSM 4.07 v. 6.1.0, GSM 4.08 v. 5.13.0, GSM 4.60 v. 7.5.0, GSM 5.01 v. 6.1.1). In fact, the '244 Patent issued after a series of Office Actions and Interviews in which Jawanda was explicitly discussed and overcome.

16

Ex. 2005-0019