PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of	
CERTAIN WIRELESS DEVICES WITH 3G AND/OR 4G CAPABILITIES AND COMPONENTS THEREOF	**Inv. No. 337-TA-868**

INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Theodore R. Essex

(June 13, 2014)

Appearances:

For the Complainants InterDigital Communications, Inc.; InterDigital Corporation; IPR Licensing; and InterDigital Holdings, Inc..:

Maximilian A. Grant, Esq., Bert C. Reiser, Esq., and Jonathan D. Link, Esq. of Latham & Watkins LLP of Washington, D.C.

Ron E. Shulman, Esq. of Latham & Watkins LLP of Menlo Park, California

Julie M. Holloway, Esq. of Latham & Watkins LLP of San Francisco, California

David S. Steuer, Esq., Michael B. Levin, Esq., and Maura L. Rees, Esq. of Wilson Sonsini Goodrich and Rosati of Palo Alto, California

Larry L. Shatzer of Wilson Sonsini Goodrich and Rosati of Washington D.C.

For Respondents Nokia Corporation and Nokia Inc.:

Marsha E. Mullin, Esq. of Alston & Bird LLP of Los Angeles, California

Patrick J. Flinn, Esq. and John D. Haynes, Esq. of Alston & Bird LLP of Atlanta, Georgia

Ross R. Barton, Esq. of Alston & Bird LLP of Charlotte, North Carolina

For Respondents ZTE Corporation and ZTE (USA) Inc.:

Jay H. Reiziss, Esq. of Brinks Gilson & Lione of Washington, D.C.

Charles M. McMahon, Esq., Kelly J. Eberspecher, Esq., and Jeffrey J. Catalano, Esq. of Brinks Gilson & Lione of Chicago, Illinois

For the Commission Investigative Staff:

Margaret D. Macdonald, Esq., Director; Jeffrey T. Hsu, Esq., Supervisory Attorney; Lisa A. Murray, Esq., Investigative Attorney of the Office of Unfair Import Investigations, U.S. International Trade Commission, of Washington, D.C.,

Pursuant to the Notice of Investigation, 78 Fed. Reg. 8191 (February 5, 2013), this is the Initial Determination of the in the matter of *Certain Wireless Devices with 3G and/or 4G Capabilities and Components Thereof*, United States International Trade Commission Investigation No. 337-TA-868. *See* 19 C.F.R. § 210.42(a).

It is held that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain wireless devices with 3G and/or 4G capabilities and components thereof by reason of infringement of certain claims of U.S. Patent No. 7,941,151 ("the '151 patent").

It is held that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain wireless devices with 3G and/or 4G capabilities and components thereof by reason of infringement of certain claims of U.S. Patent Nos. 7,190,966 ("the ''966 Patent") and 7,286,847 ("the '847 Patents").

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The following abbreviations may be used in this Initial Determination:

CDX	Complainants' demonstrative exhibit
CIB	Complainants' initial post-hearing brief
CPX	Complainants' physical exhibit
CRB	Complainants' reply post-hearing brief
CX	Complainants' exhibit
Dep.	Deposition
JX	Joint Exhibit
RDX	Respondents' demonstrative exhibit
RIB	Respondents' initial post-hearing brief
RPX	Respondents' physical exhibit
RRB	Respondents' reply post-hearing brief
RRX	Respondents' rebuttal exhibit
RX	Respondents' exhibit
SIB	Staff's initial post-hearing brief
SRB	Staff's reply post-hearing brief
Tr.	Transcript

I. BACKGROUND

A. Institution and Procedural History of This Investigation

By publication of a notice in the *Federal Register* on February 5, 2013, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, the Commission instituted Investigation No. 337-TA-868 with respect to U.S. Patent No. 7,190,966 (''the ''966 Patent''); U.S. Patent No. 7,286,847 (''the ''847 Patent''); U.S. Patent No. 8,009,636 (''the '636 patent''); U.S. Patent No. 7,706,830 (''the '830 patent''); U.S. Patent No. 7,941,151 (''the '151 patent''); U.S. Patent No. 7,616,970 (''the '970 patent''); and U.S. Patent No.7,502,406 (''the '406 patent'') to determine:

> [W]hether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain wireless devices with 3G and/or 4G capabilities and components thereof by reason of infringement of one or more of claims 1, 3, and 6–12 of the '996 patent; claims 1–3 and 5–11 of the ''847 Patent; claims 1–18 of the '970 patent; claims 1–6, 8, 9, 16–21, 23, and 24 of the '151 patent; claims 1–3, 5–8, 10, 16–18, 20–23, and 25 of the '830 patent; claims 1–4, 6–9, and 29–31 of the '636 patent; and claims1, 2, 6–9, 13, 15, 16, 20–22, 26, 28–30, 34–36, and 40 of the '406 patent, and whether an industry in the United States exists as required by subsection (a)(2) of section 337.

78 Fed. Reg. 8191 (February 5, 2013).

The complainants are InterDigital Communications, Inc. of King of Prussia, Pennsylvania; InterDigital Technology Corporation of Wilmington, Delaware; IPR Licensing, Inc. of Wilmington, Delaware; and InterDigital Holdings, Inc. of Wilmington, Delaware. (78 Fed. Reg. 8191 (February 5, 2013).) The Notice of Investigation named the respondents as Samsung Electronics Co., Ltd., of the Republic of Korea; Samsung Electronics America, Inc., of Ridgefield Park, New Jersey; Samsung Telecommunications America, LLC, of Richardson, Texas; Nokia Corporation of Finland; Nokia Inc. of White Plains, New York; ZTE Corporation

of China; ZTE (USA) Inc. of Richardson, Texas; Huawei Technologies Co., Ltd. Of China, Huawei Device USA, Inc. of Plano, Texas; and Future Wei Technologies, Inc., d/b/a Huawei Technologies (USA) of Plano, Texas. (*Id.*) The Commission Investigative Staff ("Staff") of the Office of Unfair Import Investigations is a party in this investigation. (*Id.*)

The investigation was originally assigned to ALJ Robert K. Rogers, Jr. (Notice to the Parties) (January 30, 2013). The investigation was reassigned to Chief Judge Bullock and ALJ Dee Lord. On October 29, 2013, the investigation was reassigned to this ALJ. (Notice to the Parties) (October 29, 2013).

On June 24, 2013, ALJ Rogers terminated claims 1, 7-8, 15, 21-22, 34-36, and 40 of U.S. Patent No. 7,502,406, claims 16-18, 20-23, and 25 of U.S. Patent No. 7,706,830, claims 7, 10, and 12 of U.S. Patent No. 7,190,966, claims 1, 2, and 6-11 of U.S. Patent No. 7,286,847, and claims 1 and 16 of U.S. Patent No. 7,941,151. (Order No. 33) On July 17, 2013, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Terminating the Investigation as to Certain Asserted Patent Claims Based Upon Withdrawal of the Complaint.)

On August 26, 2013, ALJ Rogers terminated claims 6-8 and 10 of U.S. Patent No. 7,706,830 and claims 3 and 29-31 of U.S. Patent No. 8,009,636. (Order No. 61.) On September 24, 2013, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Terminating the Investigation as to Certain Asserted Patent Claims Based Upon Withdrawal of the Complaint.)

On September 26, 2013, ALJ Lord extended the target date to August 25, 2014. (Order No. 72.) On November 4, 2013, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Extending the Target Date.)

On January 15, 2014, the ALJ found that that there has been no violation of Section 337 as to claims 1-18 of U.S. Patent No. 7,616,970 because the Commission found that all the claims of that patent were invalid in Inv. No. 337-TA-800. (Order No. 89.) On February 24, 2014, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Finding that Samsung Does Not Infringe U.S. Patent No. 7,502,406) (February 24, 2014).

On January 16, 2014, the ALJ terminated the Huawei respondents from the investigation on the basis of a settlement and arbitration agreement. (Order No. 90.) On February 21, 2014, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Terminating Three Respondents on the Basis of a Settlement and Arbitration Agreement) (February 21, 2014) .

On January 24, 2014, the ALJ issued an initial determination finding that the Samsung Respondents did not infringe U.S. Patent No. 7,502,406. (Order No. 91.) On February 24, 2014, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Finding That Samsung Does Not Infringe U.S. Patent No. 7,502,406) (February 24, 2014).

On February 5, 2014, the ALJ issued an initial determination finding that Samsung does not infringe U.S. Patent Nos. 7,706,830 and 8,009,636. (Order No. 96.) On March 5, 2014, the Commission determined not to review the order. (Notice of Commission Decision Not to Review an Initial Determination Finding That Samsung Does Not Infringe U.S. Patent Nos. 7,706,830 And 8,009,636.) (March 5, 2014).

The evidentiary hearing in this investigation was held on February 10-20, 2014.

On March 21, 2014, Respondents filed a motion to strike previously undisclosed opinions from InterDigital's post-hearing brief and a motion to strike previously undisclosed opinions from InterDigital's post-hearing reply brief. (Motion Nos. 868-114 and 868-115.) Respondents seek to strike new arguments relating to the terms "same physical downlink control channel"; "channel assignment information"; and "and if so." Staff supports both motions.

On April 2, 2014, InterDigital filed a consolidated response to Motion Nos. 868-114 and 868-115. InterDigital argues that it disclosed its contentions and supporting evidence in its pre-hearing brief. The ALJ agrees and finds that InterDigital adequately disclosed its arguments and supporting evidence in its pre-hearing brief. Motion Nos. 868-114 and 868-115 are hereby DENIED.

On April 2, 2014, Samsung and ZTE filed a motion to strike portions of InterDigital's Post-hearing Reply Brief containing information from outside the record. (Motion No. 868-116.) Samsung and ZTE seek to strike reference to the transcript of a March 12, 2014 *Markman* hearing in the district court case between InterDigital and ZTE.

On April 14, 2014, InterDigital filed a response to Motion No. 868-116. On April 23, 2014, InterDigital filed a Notice of Supplemental Authority notifying the ALJ of the recently issued *Markman* Order from Judge Andrews of the District Court of Delaware. As will be set forth in more detail *infra*, the ALJ hereby DENIES Motion No. 868-116.

On June 3, 2014, Samsung and InterDigital filed a joint motion to terminate Samsung from the investigation on the basis of settlement agreement. On June 9, 2014, the ALJ granted the motion. (Order No. 114.) The motion is pending before the Commission.

B. The Parties

1. Complainants

Complainant InterDigital Communications, Inc. is a Delaware corporation with its principal place of business at 781 Third Avenue, King of Prussia, PA 19406. (CIB at 4.) Complainants InterDigital Holdings, Inc., InterDigital Technology Corporation, and IPR Licensing, Inc. are Delaware corporations with their principal place of business at 200 Bellevue Parkway, Suite 300, Wilmington, DE 19809. (*Id.*) InterDigital Communications, Inc., InterDigital Holdings, Inc., InterDigital Technology Corporation, and IPR Licensing, Inc. (collectively, "InterDigital") are subsidiaries of InterDigital, Inc., a Pennsylvania corporation. (*Id.*)

2. Nokia

Respondent Nokia Corporation is a global telecommunications company. (RIB at 5.) Founded in 1865, Nokia Corporation is headquartered in Finland. (*Id.*) Nokia Inc. operates as the U.S. subsidiary of Nokia Corporation and markets and distributes mobile phones and telecommunication devices. (*Id.*) Nokia is a global leader in the design, manufacture and supply of wireless handsets. (*Id.*) Nokia's handsets are the result of decades of innovative effort to design cutting-edge technology for the wireless market. (*Id.*)

3. ZTE

Respondent ZTE Corporation is a global provider of telecommunications equipment and network solutions, connecting customers via voice, data, multimedia and WLAN. Headquartered in Shenzhen China, ZTE is listed on both the Hong Kong and Shenzhen Stock Exchanges. ZTE (USA) Inc. is the U.S. subsidiary of ZTE Corporation. Established in 1995, ZTE USA is headquartered in Dallas, Texas and has branch offices throughout the United States,

as well as R&D centers that focus on 4G technology, terminal technology, and WiMAX, CDMA and LTE related technologies. (RIB at 6.)

C. The Patents at Issue and Overview of the Technology

I. The '151 Patent

U.S. Patent No. 7,941,151 ("the '151 Patent"), entitled "Method and System for Providing Channel Assignment Information Used to Support Uplink and Downlink Channels," was filed on February 23,2007, and issued on May 10, 2011. (*See* JX-0002). Marian Rudolf of Montreal, Canada; Stephen G. Dick of Nesconset, New York; and Philip J. Pietraski of Hugtington Station New York are the named inventors of the '151 Patent. (*Id.*) The '151 Patent generally discloses a method for providing channel assignment information for both uplink and downlink channels in an LTE telecommunications system. (*Id.*)

The asserted claims of the '151 Patent are claims 1-6, 8-9, 16-21, and 23-24. These are asserted against all Respondents in this Investigation. These claims read as follows:

> 1. A method for utilizing channel assignment information for an uplink shared channel or a downlink shared channel, the method comprising:
>
> a wireless transmit/receive unit (WTRU) receiving downlink control information including downlink or uplink channel assignment information via a same physical downlink control channel, both downlink channel assignment information and uplink channel assignment information being received via the same physical downlink control channel;
>
> the WTRU determining whether the downlink control information is intended for the WTRU based on WTRU identity (ID)-masked cyclic redundancy check (CRC) parity bits, and if so determining whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel;
>
> and the WTRU utilizing the radio resources for the uplink shared channel or the downlink shared channel.
>
> 2. The method of claim 1, wherein the WTRU ID-masked CRC parity bits are

derived from a sixteen bit CRC.

3. The method of claim 1, wherein the downlink control information includes modulation and coding scheme information.

4. The method of claim 1, wherein the downlink control information includes a new data indicator.

5. The method of claim 1, wherein the downlink control information includes a redundancy version.

6. The method of claim 1, wherein the downlink control information includes hybrid automatic repeat request (H-ARQ) information.

8. The method of claim 1, wherein the physical downlink control channel carries both downlink and uplink channel assignment information simultaneously.

9. The method of claim 1, wherein the downlink control information indicates whether the channel assignment information is for the uplink shared channel or the downlink shared channel.

16. A wireless transmit/receive unit (WTRU) for utilizing channel assignment information for an uplink shared channel or a downlink shared channel, the WTRU comprising:

a receiver configured to receive downlink control information including downlink or uplink channel assignment information via a same physical downlink control channel, both downlink channel assignment information and uplink channel assignment information being received via the same physical downlink control channel;

and a controller configured to determine whether the downlink control information is intended for the WTRU based on WTRU identity (ID)-masked cyclic redundancy check (CRC) parity bits and to determine whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel, and utilizing the radio resources for the uplink shared channel or the downlink shared channel.

17. The WTRU of claim 16, wherein the WTRU ID-masked CRC parity bits are derived from a sixteen bit CRC.

18. The WTRU of claim 16, wherein the downlink control information includes modulation and coding scheme information.

19. The WTRU of claim 16, wherein the downlink control information includes a new data indicator.

20. The WTRU of claim 16, wherein the downlink control information includes a redundancy version.

21. The WTRU of claim 16, wherein the downlink control information includes hybrid automatic repeat request (H-ARQ) information.

23. The WTRU of claim 16, wherein the physical downlink control channel carries both downlink and uplink channel assignment information simultaneously.

24. The WTRU of claim 16, wherein the downlink control information indicates whether the channel assignment information is for the uplink shared channel or the downlink shared channel.

II. The ''966 Patent and the '847 Patents

U.S. Patent No. 7,190,966 ("the ''966 Patent") and U.S. Patent No. 7,286,847 ("the '847 Patents") ("the Power Ramp-Up Patents") are asserted only against ZTE. The ''966 Patent and the '847 Patents are both entitled "Method and Apparatus for Performing an Access Procedure." (JX-0007 and JX-0006, respectively). The ''966 Patent was filed on June 29, 2005 and issued on March 13, 2007 (JX-0007) and the ''847 Patent was also filed on June 29, 2005 and issued on October 23, 2007 (JX-0006). Faith Ozluturk of Port Washington, New York and Gary Lomp of Centerport New York are the named inventors of both the '966 and the '847 Patents. (*Id.*) Both patents are directed to a CDMA communication system that utilizes the transmission of short codes. (*Id.*)

The asserted claims of the ''966 Patent are claims 1, 3, 6, 8, 9, and 11, and the '847 Patents are claims 3 and 5. The ''966 Patent and the '847 Patents are asserted only against ZTE. The asserted claims read as follows:

A. The ''966 Patent

1. A wireless code division multiple access (CDMA) subscriber unit comprising:

a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a

base station associated with the network over a communication channel to be indicated by the base station, the transmitter successively transmits signals until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter is at an increased power level with respect to a prior transmission of one of the signals;

the transmitter further configured such that the transmitter transmits to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station, the message being transmitted only subsequent to the subscriber unit receiving the indication,

wherein each of the successively transmitted signals and the message are generated using a same code; and

wherein each of the successively transmitted signals is shorter than the message.

3. The subscriber unit of claim 1 wherein some of the transmitted signals are different.

6. The subscriber unit of claim 1 wherein the successive transmission of signals by the transmitter facilitates power control when the subscriber unit is first accessing the network.

8. The subscriber unit of claim 1 wherein the transmitter is further configured to transmit the signals such that there is a uniform decibel power level increase between the successively transmitted signals.

9. The subscriber unit of claim 1 wherein the communication channel is indicated by the base station in response to the message.

11. The subscriber unit of claim 1 wherein the transmitter is further configured such that, subsequent to the subscriber unit receiving the indication, the transmitter transmits a message uniquely identifying the subscriber unit to the base station.

B. The '847 Patents

3. A wireless code division multiple access (CDMA) subscriber unit comprising:

a circuit configured to synchronize to a pilot signal transmitted by a base station associated with a CDMA network wherein, if the circuit becomes unsynchronized to the pilot signal during an idle period of the subscriber unit, the circuit is further configured to re-synchronize to the pilot signal;

a transmitter configured such that, when the subscriber unit is first accessing the CDMA network, the transmitter successively transmits signals generated using a portion of a code until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter, other than a transmission of a first one of the signals, is at an increased power level with respect to a prior transmission of another one of the signals;

the transmitter further configured such that, subsequent to the subscriber unit receiving the indication, the transmitter transmits a signal generated using a remainder of the code,

wherein, prior to receiving the indication, the subscriber unit is not uniquely identified to the base station.

5. A wireless code division multiple access (CDMA) subscriber unit comprising:

a circuit configured to receive and down convert radio frequency signals to produce baseband signals, the baseband signals including a pilot signal and a paging message, the paging message being associated with the subscriber unit,

wherein the circuit is further configured to synchronize to the pilot signal and demodulate the paging message; and

a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a base station associated with the network over a communication channel to be indicated by the base station, the transmitter successively transmits signals until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter, other than a transmission of a first one of the signals, is at an increased power level with respect to a prior transmission of another one of the signals;

the transmitter further configured such that the transmitter transmits to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station, the message being transmitted only subsequent to the subscriber unit receiving the indication,

wherein the successively transmitted signals and the message are generated using a same code.

D. The Products At Issue

1. ZTE Accused Products

The ZTE accused products at issue in this investigation are limited to certain ZTE mobile electronic devices with WCDMA or LTE functionality. The specific devices InterDigital has accused are listed in JX-0023C (Amended Joint Statement re Accused Products), Ex. A.

2. Nokia Accused Products

The Nokia accused products at issue in this investigation are limited to certain Nokia mobile electronic devices with 4G wireless functionality, specifically identified in Ex. A to JX-0026C (Importation Stipulation).

II. IMPORTATION OR SALE

Section 337 of the Tariff Act prohibits the importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignees of articles that infringe a valid and enforceable United States patent. *See* 19 U.S.C. § 1337(a)(1)(B). A complainant "need only prove importation of a single accused product to satisfy the importation element." *Certain Purple Protective Gloves*, 337-TA-500, Order No. 17 (September 23, 2004).

The parties have entered into stipulations regarding importation. (JX-0023C, JX-0025C, JX-0026C.)

Accordingly, the ALJ finds that the importation requirement has been satisfied.

III. JURISDICTION

In order to have the power to decide a case, a court or agency must have both subject matter jurisdiction and jurisdiction over either the parties or the property involved. *See Certain Steel Rod Treating Apparatus and Components Thereof*, Inv. No. 337-TA-97, Commission Memorandum Opinion, 215 U.S.P.Q. 229, 231 (1981). For the reasons discussed below, the ALJ finds the Commission has jurisdiction over this investigation.

Section 337 declares unlawful the importation, the sale for importation, or the sale after importation into the United States of articles that infringe a valid and enforceable United States patent by the owner, importer, or consignee of the articles, if an industry relating to the articles protected by the patent exists or is in the process of being established in the United States. *See* 19 U.S.C. §§ 1337(a)(1)(B)(I) and (a)(2). Pursuant to Section 337, the Commission shall investigate alleged violations of the Section and hear and decide actions involving those alleged violations.

As set forth *supra* in Section II, the importation requirement has been satisfied. Furthermore, Respondents have appeared and participated fully in this investigation and do not dispute the Commission's jurisdiction. Accordingly, the ALJ finds that Nokia and ZTE have submitted to the jurisdiction of the Commission. *See Certain Miniature Hacksaws*, Inv. No. 337-TA-237, Pub. No. 1948, Initial Determination at 4, 1986 WL 379287 (U.S.I.T.C., October 15, 1986) (unreviewed by Commission in relevant part). Thus, the ALJ finds that the Commission has jurisdiction under Section 337 to hear this investigation and has jurisdiction over these Respondents.

IV. CLAIM CONSTRUCTION

A. Legal Standard

Pursuant to the Commission's Notice of Investigation, this investigation is a patent-based investigation. *See* 78 Fed. Reg. 8191 (February 5, 2013). Accordingly, all of the unfair acts alleged by InterDigital to have occurred are instances of alleged infringement of the '151 Patent, the ''966 Patent and the '847 Patents. Claim interpretation is a question of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455 (Fed. Cir. 1998). Second, a factual determination must be made as to whether the properly construed claims read on the accused devices. *Markman*, 52 F.3d at 976.

"The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365–67 (Fed. Cir. 2012) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc)). In construing claims, the ALJ should first look to intrinsic evidence, which consists of the language of the claims, the patent's specification, and the prosecution history, as such evidence "is the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *see also Bell Atl. Network Servs., Inc. v. Covad Comm'n. Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The words of the claims "define the scope of the patented invention." *Id.* And, the claims themselves "provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. It is essential to consider a claim as a whole when construing each term, because the context in which a term is used in a claim "can be highly instructive." *Id.* Claim terms are presumed to be used consistently throughout the patent, such that the usage of the term

in one claim can often illuminate the meaning of the same term in other claims. *Research Plastics, Inc. v. Federal Pkg. Corp.*, 421 F.3d 1290, 1295 (Fed. Cir. 2005). In addition:

> . . . in clarifying the meaning of claim terms, courts are free to use words that do not appear in the claim so long as the resulting claim interpretation . . . accord[s] with the words chosen by the patentee to stake out the boundary of the claimed property.

Pause Tech., Inc. v. TIVO, Inc., 419 F.3d 1326, 1333 (Fed. Cir. 2005).

Idiosyncratic language, highly technical terms, or terms coined by the inventor are best understood by reference to the specification. *Phillips*, 415 F.3d at 1315–16. While the ALJ construes the claims in light of the specification, limitations discussed in the specification may not be read into the claims. *See Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010); *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). Some claim terms do not have particular meaning in a field of art, in which case claim construction involves little more than applying the widely accepted meaning of commonly understood words. *Phillips*, 415 F.3d at 1314. Under such circumstances, a general purpose dictionary may be of use.[1] *See Advanced Fiber Tech. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1374–75 (Fed. Cir. 2012).

Claim terms should generally be given their ordinary and customary meaning except "1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner*, 669 F.3d at 1365. "To act as its own lexicographer, a patentee must 'clearly set forth a definition of the disputed claim term . . . .'" *Id.* (quoting *CCS Fitness, Inc. v. Brunswick Corp.*,

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[1] Use of a dictionary, however, may extend patent protection beyond that to which a patent should properly be afforded. There is also no guarantee that a term is used the same way in a treatise as it would be by a patentee. *Phillips*, 415 F.3d at 1322.

288 F.3d 1359, 1366 (Fed. Cir. 2002)). And "[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside . . . the patent," even if the terms might otherwise be broad enough to cover that feature. *Id.* at 1366 (internal citation omitted). Thus, if a claim term is defined contrary to the meaning given to it by those of ordinary skill in the art, the specification must communicate a deliberate and clear preference for the alternate definition. *Kumar v. Ovonic Battery Co.*, 351 F.3d 1364, 1368 (Fed. Cir. 2003). In other words, the intrinsic evidence must "clearly set forth" or "clearly redefine" a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. *Bell Atl.*, 262 F.3d at 1268. For example, disclaiming the ordinary meaning of a claim term—and thus, in effect, redefining it—can be affected through "repeated and definitive remarks in the written description." *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (citing *Watts v. XL Sys.*, 232 F.3d 877, 882 (Fed. Cir. 2000)); *see SafeTCare Mfg., Inc. v. Tele–Made, Inc.*, 497 F.3d 1262, 1270 (Fed.Cir.2007) (finding disclaimer of "pulling force" where "the written description repeatedly emphasized that the motor of the patented invention applied a pushing force").

When the meaning of a claim term is uncertain, the specification is usually the first and best place to look, aside from the claim itself, in order to find that meaning. *Phillips*, 415 F.3d at 1315. The specification of a patent "acts as a dictionary" both "when it expressly defines terms used in the claims" and "when it defines terms by implication." *Vitronics*, 90 F.3d at 1582. For example, the specification "may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents." *Phillips*, 415 F.3d at 1323. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316. However,

as a general rule, particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Markman*, 52 F.3d at 979.

The prosecution history "provides evidence of how the inventor and the PTO understood the patent." *Phillips*, 415 F.3d at 1317; *see also Pass & Seymour, Inc. v. Int'l Trade Comm'n*, 617 F.3d 1319, 1327 (Fed. Cir. 2010) (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998)). The ALJ may not rely on the prosecution history to construe the meaning of the claim to be narrower than it would otherwise be unless a patentee limited or surrendered claim scope through a clear and unmistakable disavowal. *Trading Tech. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2010) (internal citations omitted); *Vitronics*, 90 F.3d at 1582–83. For example, the prosecution history may inform the meaning of the claim language by demonstrating how an inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it otherwise would be. *Vitronics*, 90 F.3d at 1582-83; *see also Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) (stating, "The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution."); *Microsoft Corp. v. Multi-tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (stating, "We have held that a statement made by the patentee during prosecution history of a patent in the same family as the patent-in-suit can operate as a disclaimer."). The prosecution history includes the prior art cited, *Phillips*, 415 F.3d at 1317, as well as any reexamination of the patent. *Intermatic Inc. v. Lamson & Sessions Co.*, 273 F.3d 1355, 1367 (Fed. Cir. 2001).

Differences between claims may be helpful in understanding the meaning of claim terms. *Phillips*, 415 F.3d at 1314. A claim construction that gives meaning to all the terms of a claim is preferred over one that does not do so. *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364,

1372 (Fed. Cir.), *cert. denied*, 546 U.S. 972 (2005); *Alza Corp. v. Mylan Labs. Inc.*, 391 F.3d 1365, 1370 (Fed. Cir. 2004). In addition, the presence of a specific limitation in a dependent claim raises a presumption that the limitation is not present in the independent claim. *Phillips*, 415 F.3d at 1315. This presumption of claim differentiation is especially strong when the only difference between the independent and dependent claim is the limitation in dispute. *SunRace Roots Enter. Co., v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003). "[C]laim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous." *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1247 (Fed. Cir. 2007).

Finally, when the intrinsic evidence does not establish the meaning of a claim, the ALJ may consider extrinsic evidence, *i.e.*, all evidence external to the patent and the prosecution history, including inventor testimony, expert testimony and learned treatises. *Phillips*, 415 F.3d at 1317. Extrinsic evidence may be helpful in explaining scientific principles, the meaning of technical terms, and terms of art. *Vitronics*, 90 F.3d at 1583; *Markman*, 52 F.3d at 980. However, the Federal Circuit has generally viewed extrinsic evidence as less reliable than the patent itself and its prosecution history in determining how to define claim terms. *Phillips*, 415 F.3d at 1318. With respect to expert witnesses, any testimony that is clearly at odds with the claim construction mandated by the claims themselves, the patent specification, and the prosecution history should be discounted. *Id.* at 1318.

If the meaning of a claim term remains ambiguous after a review of the intrinsic and extrinsic evidence, then the patent claims should be construed so as to maintain their validity. *Id.* at 1327. However, if the only reasonable interpretation renders a claim invalid, then the claim should be found invalid. *See Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999).

B. The '151 Patent

1. Level of Skill in the Art

InterDigital argues that a person of ordinary skill would have at least an undergraduate degree in electrical engineering, computer engineering, or computer science with three to five years of experience in cellular communications, or comparable and/or equivalent training or a Masters Degree and one to two years of experience in cellular communications or comparable and/or equivalent training. (CX-1014C at Q&A 87.)

Respondents argue that person of ordinary skill would have had at least a bachelor's degree in electrical engineering, computer science, mathematics or a related field, and at least some years of working experience in the area of wireless communications including issues related to coding, with the exact amount of working experience dependent on the person's degrees. (RIB at 24.)

Staff argues that a person would have at least an undergraduate degree in electrical engineering, computer engineering, computer science, mathematics or a related field, plus some number of years of practical experience. An individual holding a bachelor's degree would need between three and five years of working experience in the relevant art, while a person with a more advanced degree would need fewer years in the field to develop the required skill set. (SIB at 15.)

The ALJ finds that the parties are not far apart in their respective skill levels and further that the differences have no significant impact on claim construction. Therefore, the ALJ finds that a person of ordinary skill in the art would have at least a bachelor's degree in electrical engineering, computer science, mathematics or a related field, and at least three to five years of working experience in the area of wireless communications.

2. District Court *Markman* Order

On April 23, 2014, InterDigital filed a Notice of Supplemental Authority that included the April 22, 2014 *Markman* Order issued by Judge Richard G. Andrews of the District Court of Delaware in the consolidated district court case between InterDigital and ZTE and Nokia ("*Markman* Order"). The patents at issue in the consolidated district court case include the patents at issue here, namely the '151 Patent, the '847 Patents and the ''966 Patent. (*Markman* Order at 1.) The claim terms at issue for all three patents are nearly identical with the exception of some additional terms requiring construction in this Investigation for the '151 Patent. Moreover, InterDigital and Respondents' proposed constructions in the district court litigation are identical to those proposed in this investigation.

For the reasons set forth below, the ALJ hereby adopts nearly all of the claim constructions set forth in the *Markman* Order, with the exception of the "successively [transmits/transmitted] signals" limitation for the '966 and the '847 Patents. For those claim terms that the *Markman* Order does not address, the ALJ will construe those claims, as necessary.

First, it is well settled that claim construction is a question of law. *Markman v. Westview Instruments Inc.*, 571 U.S. 370, 116 S. Ct. 1384 (1996). In so finding, the Supreme Court further noted that "the importance of uniformity in the treatment of a given patent as an independent reason to allocate all issues of construction to the court." *Id.* at 390. The Supreme Court further noted that "treating interpretive issues as purely legal will promote (though it will not guarantee) intrajurisdictional certainty through the application of *stare decisis* on those questions not yet subject to interjurisdicitional uniformity under the authority of the single appeals court." *Id.* at 391. However, despite the Supreme Court's pronouncement, *Markman* Orders from district courts are often given the status of "persuasive" authority or "considerable deference." *See Rambus v. Hynix*, 569 F. Supp. 2d 946, 965-967 (N.D. Cal 2008) (discussing the application of

stare decisis to previous district court decisions); *Hitachi v. Top Victory*, 2012 WL 5494087 (E.D. Tex 2012) ("In general, prior claim construction proceeding involving the same patents-in-suit are 'entitled to reasoned deference under the broad principals of *stare decisis* and the goals articulated by the Supreme Court in *Markman*, even though *stare decisis* may not be applicable *per se*.'") (citing *Maurice Mitchell Innovations, LP v. Intel Corp.* 2006 WL 1751779 (E.D. Tex. 2006)); *Costar Realty Information v. CIVIX-DDI, LLC*, 2013 WL 5346440 (N.D. Ill 2013) ("Courts in this district have stopped short of affording complete deference to prior non-preclusive district court claim constructions, instead giving them the status of only persuasive authority.")

Thus, in this instance, the ALJ will similarly treat the *Markman* Order with considerable deference. The ALJ finds that the case for such treatment is especially appropriate in this instance given the circumstances: the patents at issue are identical, the claim terms construed in the *Markman* Order are identical to claim terms at issue in this investigation, the parties are nearly identical, and the proposed constructions from the parties are identical. The Respondents in this investigation have set forth the same proposed construction in this Investigation for the relevant claim terms as set forth in the Delaware District Court litigation. Thus, their arguments were considered by the District Court and the ALJ sees little prejudice to any of the parties, with the exception of Staff, in adopting the District Court's *Markman* Order. Samsung, the only set of respondents not a party to the Delaware District Court, is no longer a party to this investigation. Consequently, the ALJ finds little prejudice to any party, other than Staff, in finding the *Markman* Order to be highly persuasive authority.

As for the Staff's arguments, Staff largely agreed with one side or the other in its proposed construction. However, to the extent that Staff proposed its own construction, the ALJ will address those independently.

3. "[A/The] Same Physical Downlink Control Channel"

InterDigital's Construction	Respondents' Construction	Staff's Construction
a radio resource used to transmit uplink and/or downlink channel assignment information	[a/the] channel used for transfer of downlink control information only that occupies a same radio resource defined by a channelization code	a physical downlink channel used to transmit uplink and downlink channel assignment information over the same radio resource

InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. Having examined and reviewed the *Markman* Order, the ALJ finds the reasoning and claim construction set forth therein to be highly persuasive. The ALJ hereby adopts the claim construction and reasoning set forth in the *Markman* Order: "[a/the] channel used for transfer of downlink control information that occupies a same radio resource."

Staff argues that Respondents' proposed construction unnecessarily limits the claim by requiring that the channel be defined by the channelization code. (SIB at 22.) Staff further argues that its claim construction is correct because it takes into account the key aspect of the '151 invention, namely that the same control channel is used for both downlink and uplink assignment. (SIB at 23.) The ALJ finds that Staff's construction broadens the claim language to include uplink information and, following the District Court's line of reasoning, the ALJ finds that such a construction impermissibly broadens the claim. The ALJ finds that Staff's

construction, while not incorrect, is not as accurate as it fails to include "control information." (*See* JX -0002 at claims 1, 16, 3:22-39, FIG. 1.)

4. "Radio Resources"

InterDigital's And Staff's Construction	Respondents' Construction
resources for uplink or downlink transmissions from or to the WTRU	The term should be given its plain and ordinary meaning, but to the extent a construction is necessary, Respondents propose "physical resources for uplink or downlink transmissions [from or to a WTRU]"

InterDigital concedes that "[t]here is no meaningful difference between the parties' proposed constructions" and "agrees that the resources…must be at least in part physical." (CIB at 75.) In addition, InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. Having examined and reviewed the *Markman* Order, the ALJ finds the reasoning and claim construction set forth therein to be highly persuasive. The ALJ hereby adopts the claim construction and reasoning set forth in the *Markman* Order: "physical resources for uplink or downlink transmissions [from or to a WRTU]."

5. "Channel Assignment Information"

InterDigital's and Staff's Construction	Respondents' Construction
information regarding radio resource assignment for the uplink or downlink channel	This term should be given its plain and ordinary meaning, but, to the extent a construction is necessary, the term should be construed as "information identifying a channel assigned to the WTRU"

InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. Having examined and reviewed the *Markman* Order, the ALJ finds the reasoning and claim construction set forth therein to be highly persuasive. The ALJ hereby adopts the claim construction and reasoning set forth in the *Markman* Order: "information identifying a channel assigned to the WTRU."

6. "Utilizing Radio Resources for the Uplink Shared Channel or the Downlink Shared Channel"

InterDigital's Construction	Respondents' Construction	Staff's Construction
As used in claim 1: using the assigned radio resources for the uplink or downlink shared channel to transmit or receive information As used in claim 16: the controller is configured to use the assigned radio resources for the uplink or downlink shared channel to transmit or receive information	As used in claim 1: either transmitting data on the uplink shared channel or receiving data on the downlink shared channel depending on whether the assigned radio resources are for the uplink shared channel or the downlink shared channel As used in claim 16 and its dependent claims, indefinite	either transmitting data on the uplink shared channel or receiving data on the downlink shared channel depending on whether the assigned radio resources are for the uplink shared channel or the downlink shared channel

InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. Having examined and reviewed the *Markman* Order, the ALJ finds the reasoning and claim construction set forth therein to be highly persuasive. The ALJ hereby adopts the claim construction and reasoning set forth in the *Markman* Order: as used in claim 1: "either transmitting data on the uplink shared channel or receiving data on the downlink shared channel," and, as used in claim 16: invalid as indefinite.

While Staff agrees with Respondents' proposed construction for the claim term as used in claim 1, Staff disagrees that the claim is indefinite as used in claim 16. Staff argues that while the Federal Circuit has held that reciting an apparatus and method of using the apparatus renders a claim indefinite under section 112, it has also held that using functional language to describe the capabilities of the apparatus is not indefinite. (SIB at 27-28.) Staff argues that the "utilizing the radio resources for the uplink shared channel or the downlink shared channel" is directed to the capabilities of the controller and not to user actions. (SIB at 28-29.) Staff further argues that

the claim language provides sufficient notice and that there is "no confusion as to how or when claim 16 is directly infringed." (*Id.*) Consequently, claim 16 is not indefinite.

The ALJ finds Staff's arguments unpersuasive. A closer reading of the Federal Circuit decisions cited by Staff, *i.e.*, *Microprocessor Enhancement Corp. v. Texas Instruments, Inc.*, 520 F. 3d 1367 (Fed. Cir. 2008), shows that the claims addressed in that case were not apparatus and method of using apparatus claims but rather directed at the capabilities/functionalities of the apparatus. Moreover, the ALJ disagrees with Staff's argument that "utilizing the radio resources for the uplink shared channel or the downlink shared channel" describes a functionality/capability of the WTRU controller. The disputed claim language, in the context of claim 16, does not "use functional language to describe the apparatus," but rather is directed toward a method of using the WTRU. *Apple Inc. v. Samsung Electronics Co., Ltd.*, 876 F. Supp. 2d 1141, 1151 (N.D. Cal 2012). Indeed, the specification specifically states that Figure 3 "is a flowchart of a process 200 including *method steps* for implementing UL channel assignment signaling in accordance with the present invention." (JX-2 at 5:24-27.) The specification then explains the steps that the WTRU will take in implementing the channel assignment – it does not address the functionalities or capabilities of the WTRU but rather the steps that the WTRU will take to complete the process. *See generally* JX-0002 at 5:25-50.

Thus, the ALJ hereby adopts the District Court's claim construction, namely for claim 1 "either transmitting data on the uplink shared channel or receiving data on the downlink shared channel" and finds that claim 16 is indefinite in light of *Rembrandt* for the same reasons set forth in the *Markman* Order.

7. "And To"

InterDigital's Construction	Respondents' And Staff's Construction
This term should be given its plain and ordinary meaning and does not impose any required sequence among the two "to determine" clauses in claim 16.	and after determining that the downlink control information is intended for the WTRU

InterDigital argues that the prosecution history does not support requiring a particular sequence for the two "to determine" clauses. (CIB at 79.) Specifically, InterDigital argues that there is no clear disavowal because (1) the "and to" language was not included in the patent application until one year after the office action replies that Staff and Respondents rely upon were submitted; (2) the prosecution history shows that the prior art was distinguished not on the sequence of the determining steps but on the existence of the determining steps; and (3) the intrinsic evidence does not support such a reading. (CIB at 79-81.)

Respondents argue that since InterDigital equated the "and to" of claim 16 with the "and if so" limitation of claim 1during prosecution of the '151 Patent, the claim terms should be given the same construction. (RIB at 36.) Specifically, Respondents argue that in order to overcome the Du reference, the applicants added the "and if so" limitation to claim 1. (*Id.*) The applicants then argued that claim 12 (which issued as claim 16) "include[s] similar elements to claim 1" and "are not anticipated by Du for at least the reason stated above." (*Id.*) Therefore, "InterDigital is bound by its representation to the Patent Office that claims 1 and 16 were both allowable because both included the consequential determining steps, and thus "and to" and "and if so" should be construed the same." (*Id.*) Respondents further argue that their proposed construction is supported by the Provisional Application and the '151 Patent specification. (*Id.* at 36-37.) Staff agrees. (SIB at 29-30.)

The ALJ finds that "and to" does require a sequence for the two "determine" clauses. First, as for the timing of the amendment, the ALJ finds InterDigital's arguments unpersuasive. The later amendment of "determining" to "and to determine" appears to have been done only for cosmetic reasons. (JX-0009 at IDC868ITC10523503.) As such, the ALJ finds that the timing has little bearing on his analysis.

Rather, the issue is whether the amendment to claim 1 and the reasons for said amendment are applicable to claim 16. The ALJ finds that it is. The applicants specifically link the amendments to claim 1 with the amendments to claim 12 (which issued as claim 16): "claim 1 and its corresponding apparatus claim, claim 12, are not obvious over Du and Toskala. " (JX-0009 at IDC868ITC10523354; *see also* JX-0009 at IDC868ITC10523456-7 (addressing anticipation ("Claims 12, 23 and 34 include similar elements to claim 1. Therefore, claims 12, 23 and 34 are not anticipated by Du for the same reason stated above.").) The applicants provided no separate reason as to why claim 12 (claim 16) was not obvious or anticipated by Du. During prosecution, there is no doubt that claim 1 and claim 12 were treated as essentially the same claim. The ALJ declines to take a different approach. *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001) ("[A] claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent.") (citations omitted) *Southwall Techs., Inc. v. Cardinal IG Co.,* 54 F.3d 1570, 1579 (Fed.Cir.1995) (holding that claim terms found in different claims should be interpreted consistently)*; see also, PODS, Inc. v. Porta Stor, Inc.*, 484 F.3d 1359, 1366-67 (Fed. Cir. 2007) (construing identical terms in method and apparatus claims in the same way unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.)

The focus now turns to whether the applicant's arguments distinguishing Du were limited to Du's failure to disclose either determining step in general or whether Du failed to disclose the sequence of determining steps. The prosecution history shows that the applicants distinguished Du based not only on the existence of the determining steps but also their sequence. (JX-0009 at IDC868ITC 10523352-3.) Similarly, the '151 Patent itself supports such a reading. Figure 3 shows the step of moving from "determine whether the message is intended for a particular WTRU" to "determine whether the message is for radio resource assignment for DL or UL" only if the answer is "yes":

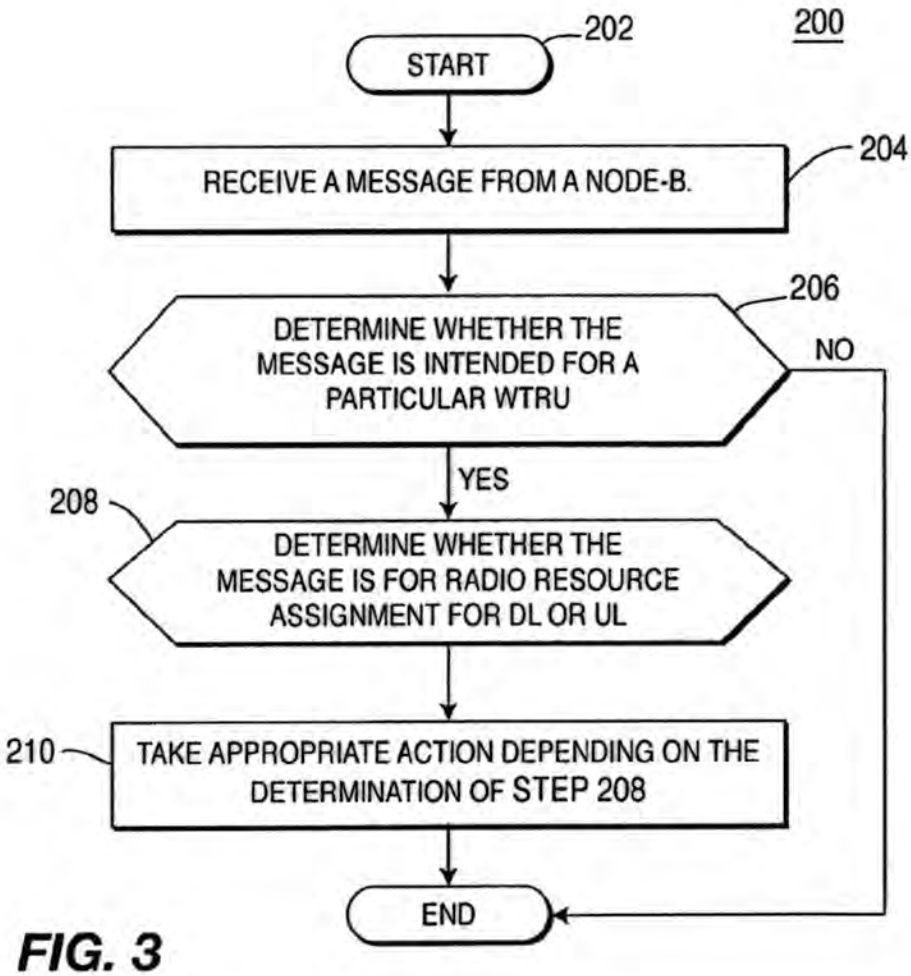

FIG. 3

(JX-0002 at Figure 3; *see also* 5:35-40 ("If the WTRU 106 determines that the message is intended for the WTRU 106, the WTRU 106 determines whether the message is for the assignment of radio resources for DL transmission or UL transmission implementing one of the embodiments of the present invention described above (step 208).") 2:25-29 ("The WTRU determines whether the message is intended for the WTRU and, if so, the WTRU determines whether the message is for assigning radio resources to the UL channel or the DL channel.").)

Therefore, the ALJ finds that the "and to" claim requires the sequential determination as set forth by Respondents and Staff. Specifically, the "determine whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel" cannot occur until after determining that the downlink control information is intended for the WTRU.

8. "Downlink Control Information"

InterDigital's Construction	Respondents' and Staff's Construction
information transmitted on a downlink control channel	control information transmitted from a base station to one or more WTRUs

InterDigital argues that "downlink control" refers to the channel on which the information is transmitted – the downlink control channel and that their proposed construction is supported by the patent's teaching that a WTRU monitors certain channels in order to receive control information. (CIB at 81.) InterDigital argues that control information is not limited to information that originates "from a base station" because the specification teaches that the control information is transmitted from a "Node-B" "where a 'Node B' is expressly defined as 'includ[ing] ***but … not limited to*** a base station, a site controller, an access point or any other type of interfacing device in a wireless environment.'" (CIB at 81) (emphasis in original).

Respondents argue that "downlink control information is control information transmitted from a base station to a WTRU instead of the reverse direction." (RIB at 33.) Respondents argue that the experts agree that the nature of a channel is determined by looking at the information it transmits and that InterDigital's arguments ignore that "downlink *control* information" must be *control* information, not just any information transmitted on a downlink control channel. (RIB at 33.) Staff agrees with Respondents' construction. (SIB at 21-22.) Respondents further argue that it will concede to replacing "base station" with Node B since it is ultimately irrelevant to the true dispute, namely whether downlink control information could include user data. (RRB at 53.)

The ALJ finds that "downlink control information" means control information transmitted from a Node B to one or more WTRUs. InterDigital's main complaint with Respondent and Staff's construction is that it is limited to only a base station. However, Respondents have agreed to substitute "base station" with "Node B" thereby addressing InterDigital's objection. (*See* RRB at 53.) The ALJ further agrees with Respondents that InterDigital's proposed construction ("information transmitted on a downlink control channel") is broad enough to include user information. The ALJ finds that a more accurate description takes into account that "control" information is transmitted from a Node B to a WTRU. Therefore, the ALJ construes "downlink control information" to mean control information transmitted from a Node B to one or more WTRUs.

C. The '847 and ''966 Patent

1. Level of Skill in the Art

InterDigital argues that a person of ordinary skill in the art would have "an undergraduate degree in electrical engineering, or an equivalent subject, together with three to five years of

postgraduate experience in cellular communications, or comparable and/or equivalent training." (CX-0423C at Q47.)

Respondents argue that "[a] person of ordinary skill in the art of the PRU Patents around the time of the asserted date of invention in June 1996 would have had at least: (a) a Bachelor's in electrical engineering, computer science, or mathematics with at least 4-5 years of telecommunications experience with at least 3 years of that experience being in the field of CDMA communications; or (b) a Master's in electrical engineering, computer science, or mathematics with at least 4 years of telecommunications experience with at least 2 years of that experience being in CDMA communications; or (c) a Ph.D. in electrical engineering, computer science, or mathematics with at least 1 year of experience in CDMA communications." (RIB at 103.)

Staff argues that the level of skill in the art should be the same as that used in the Inv. No. 337-TA-800, which is the same as that proposed by InterDigital. (SIB at 146-147)

The ALJ finds that the level of skill in the art is a person with an undergraduate degree in electrical engineering, or an equivalent subject, together with three to five years of postgraduate experience in cellular communications, or comparable and/or equivalent training.

2. District Court *Markman* Order

For the reasons set forth *supra* in Section IV.B.2, the ALJ hereby adopts the claim constructions set forth in the *Markman* Order for those disputed claim terms to the extent they have not been previously construed by the Commission in Inv. No. 337-TA-613 or Inv. No. 337-TA-800. As noted above, the District Court case involves the exact same parties (InterDigital, Nokia and ZTE) and the same patents (the '847 and the ''966 Patents). Again, the only party not in the district court litigation is Staff and the ALJ will address Staff's arguments, as necessary.

However, for the claim term "successively [transmits/transmitted] signals," the ALJ finds that he cannot adopt the District Court *Markman* Order without also considering the Commission's previous findings and constructions.

3. Stipulated Constructions

The parties have agreed to the following constructions:

Claim Term/Phrase	Agreed Construction
communication channel	"channel for communication between a subscriber unit and a base station"
message	"data to be communicated"
first accessing a/the [CDMA] network	"beginning to transmit on a shared frequency band of a/the [CDMA] network"
[re-]synchronize[d/ing] to the/a pilot signal	"to [re-]align the beginning of the subscriber unit's signals to the beginning of a pilot signal"

4. "Successively transmits signals; successively transmitted signals"

Term	Respondents'/Staff's Construction	InterDigital's Construction
"successively [transmits/ transmitted] signals"	"successively [transmits/ transmitted] sequences of chips not modulated by a data signal"	No construction necessary, but if construed, plain meaning should apply, i.e., "transmits signals one after the other" and "signals transmitted one after the other," respectively, where "signal" means "a measurable quantity (e.g., a voltage) which varies in time in order to transmit information"

InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. Staff agrees with Respondents' claim construction.

The claim construction in the District Court *Markman* Order is "successively [transmits/transmitted] sequences of chips or bits." The District Court construction is the same

as the Respondents' and Staff's proposed construction without the additional language of "not modulated by a data signal." While such an omission by the District Court is not problematic for that litigation, that phrase cannot be ignored in this investigation in light of the Commission's findings and constructions in Inv. No. 337-TA-613 and Inv. No. 337-TA-800.

a. The 613 and the 800 Investigations

In Inv. No. 337-TA-613, InterDigital accused Nokia of infringing the '966 and the '847 Patents. ALJ Luckern held that [redacted]. (*Certain 3G Mobile Handsets and Components,* Inv. No. 337-TA-613, Final Initial Determination ("613 ID") at 243-44.) Specifically for the '966 and '847 Patents, ALJ Luckern held that the general terms "code" and "signal" is a "spreading code or a portion of a spreading code." (*Id.* at 30-38.) ALJ Luckern held that the accused Nokia products in that investigation did not infringe because [redacted] (*Id.* at 100-112.) The Commission affirmed. (*Certain 3G Mobile Handsets and Components*, Inv. No. 337-TA-613, Notice of Commission to Review in Part a Final Determinations at 2 (Oct. 16, 2009) ("613 Comm'n Op.").)

InterDigital appealed the 613 Investigation's non-infringement finding to the Federal Circuit and the Federal Circuit reversed. *InterDigital Commc'ns, Inc. v. Int'l Trade Comm'n*, 690 F.3d 1318 (Fed. Cir. 2012). The issue on appeal focused on whether the term "code" in the '966 and '847 Patents claims should be construed to be limited to a "*spreading* code." The Federal Circuit held that the term "code" in the claims is not limited to a "spreading" code. *Id.* at 1323-27. Rather, the Federal Circuit held that the commonly understood meaning of the word "code" by itself was broader: "a sequence of bits (if the ones and zeros are transmitted at the

'data rate') or chips (if the ones and zeros are transmitted at the faster 'chip rate')." *Id.* at 1324. The Federal Circuit remanded the investigation back to the Commission.

On February 12, 2014, the Commission issued a remand opinion in the 613 Investigation. *Certain 3G Mobile Handsets and Components Thereof*, Inv. No. 337-TA-613, Remand Opinion (February 12, 2014) ("613 Remand"). The Remand Opinion adopted the Federal Circuit's construction of "code" and extended that construction to the term "signal." (613 Remand at 18.) The Remand Opinion found that [redacted] was a "signal." (613 Remand at 18.)[2]

In Inv. No. 337-TA-800, InterDigital accused Nokia and ZTE of infringing related Power Ramp-up Patents, U.S. Patent No. 7,707,830 ("the '830 Patent") and 8,009,636 ("the '636 Patent").[3] *Certain Wireless Devices with 3G Capabilities and Components Thereof*, Inv. No. 337-TA-800, Initial Determination at 1-2 (June 28, 2013) ("800 ID."). ALJ Shaw found that the accused products did not infringe the '830 or '636 patents because they did not meet the "successively sends transmissions" limitation. (800 ID at 11, 446.) The claim term "successively sends transmissions" was construed to mean "transmits to the base station, one after the other, codes that are shorter than a regular length code." (*Id.* at 22.) ALJ Shaw held that the accused products did not infringe the asserted claims because [redacted]

[2] The Commission also construed the "synchronize to [a/the] pilot signal" limitation of the ''847 Patent claims. However, that claim has been construed differently in this investigation pursuant to agreement by the parties. Consequently, the ALJ will not address the Commission's construction from the 613 Remand as it is not necessary for this investigation.

[3] The '830, the '636, the '847 and the ''966 Patents share a common specification.

The Commission affirmed ALJ Shaw's finding of no infringement based on the lack of "successively sent transmissions" in the accused devices. *Certain Wireless Devices with 3G Capabilities and Components Thereof*, Inv. No. 337-TA-800, Commission Opinion at 40 ("800 Comm'n Op."). The Commission held that the "successively sends transmissions" limitation refers to the disclosed short codes, and that "short codes do not modulate data." (*Id.* at 28.) The Commission further held that [redacted]

Thus, the landscape before the ALJ is as follows: (1) the claim term has been construed by an experienced "patent court" (District Court of Delaware) involving the exact same parties (InterDigital, Nokia and ZTE) and covering the same patents (the '966 and the '847 Patents) but fails to take into consideration the Commission's previous constructions; (2) a Federal Circuit opinion and a Remand Opinion have issued covering the same patents (the '966 and the '847 Patents), involving some of the same parties (InterDigital and Nokia), addressing overlapping but not identical claim terms (signal), and making a finding on the 613 accused products [redacted]; and (3) a Commission Opinion has issued covering related patents (the '830 and the '636 Patents), nearly identical claim terms (successively sends transmissions), the exact same parties (InterDigital, Nokia and ZTE), and a finding on the 800 accused products [redacted]. Thus, while the *Markman* Order construction is certainly a reasonable construction, it fails to take into account the Commission's Opinions in the 613 and the 800 Investigations. The District Court may certainly choose to ignore the Commission's Opinion. The ALJ finds, however, that he cannot do so not only because the Commission Opinion is binding authority but also given the

circumstances of the investigation, namely identical parties, the common specification among all of the relevant patents and the (near) identical functionality of the accused products.

Regardless of the landscape, the issue before the ALJ for purposes of claim construction of "successively [transmits/transmitted] signals" is whether it can be modulated by data. Taking into consideration the parties' arguments, the specification and intrinsic evidence, and the opinions issued in the 613 and the 800 Investigations, the ALJ finds that a proper claim construction in light of those opinions requires that the "successively [transmits/transmitted] signals" cannot be modulated by data signals, *i.e.*, the claim must be construed as "successively [transmits/transmitted] sequences of chips or bits not modulated by data."

As an initial matter, as noted above, the ALJ finds that the District Court's construction is not wrong, but necessarily needs further clarification for purposes of this investigation in light of the 613 and 800 Commission Opinions.

Turning first to the 613 Remand Opinion, the ALJ notes that the current construction is consistent with the Commission's Remand Opinion, namely that "signal" and "code" mean "sequences of chips or bits." Similarly, the construction is consistent with the Commission Opinion in the 800 investigation since it acknowledges that "code" cannot be modulated by data.

The conflict arises, however, when those opinions are applied to [redacted] found in all of the accused products across all three investigations. In the 613 Remand Opinion, the Commission held that the "signal" limitation is met by [redacted]. In the 800 Opinion, the Commission held that [redacted] did not meet the "successively sent transmissions" limitation in those accused products. Of course, those words in isolation arguably do not create a conflict as they are clearly different words. However, the

claim terms do not exist in a vacuum and must be in read in the context of the claims and in light of the specification.

Respondents and Staff assert that the Commission's Opinion in the 800 investigation should be followed rather than its finding in the 613 investigation. (RIB at 107; SIB at 152) The ALJ agrees. First, the claim terms in the 800 Investigation, "successively sen[ds/t] transmissions" in the '830 and the '636 Patents are essentially interchangeable and substantively identical phrases "successively transmit[s/ted] signals" in the '966 and '847 Patents:

'966 Patent	'830 Patent
1. A wireless code division multiple access (CDMA) subscriber unit comprising:	3. A wireless code division multiple access (CDMA) subscriber unit comprising:
a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a base station associated with the network over a communication channel to be indicated by the base station, the transmitter **successively transmits signals** until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station,	a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a base station associated with the network over a communication channel to be indicated by the base station, the transmitter **successively sends transmissions** prior to the subscriber unit receiving from the base station an indication that at least one of the successively sent transmissions has been detected by the base station
the transmitter further configured such that the transmitter transmits to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station, the message being transmitted only subsequent to the subscriber unit receiving the indication,	the transmitter further configured such that the transmitter sends to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station, the message being sent only subsequent to the subscriber unit receiving the indication;
wherein each of the **successively transmitted signals** is shorter than the message	wherein each of the **successively sent transmissions** is shorter than the message
wherein each of the **successively transmitted signals** and the message are generated using a same code	wherein each of the **successively sent transmissions** and the message are produced using portions of a same sequence of chips
wherein each transmission of one of the **signals** by the transmitter is at an increased power level with respect to a prior transmission of one of the **signals**;	wherein each one of the **successively sent transmissions**, other than a first one of the successively sent transmissions, is sent at a power level that is higher than the power level of

	a prior one of the **successively sent transmissions**.

(JX-0007 at claim 1; JX-0005 at claim 3.) Thus, it is clear that the claim terms cover the same elements, despite their slightly different wording. In the 800 Investigation, the Commission explained in detail the basis for its construction:

> The Commission finds InterDigital's arguments unpersuasive and adopts the ALJ's construction of the claim term "successively sends transmissions" to mean "transmits to the base station, one after the other, codes that are shorter than a regular length code." This construction is supported by both the intrinsic and extrinsic evidence of the patents. ID at 22-25.
>
> InterDigital argues that the ALJ's construction is incorrect because it improperly restricts the plain meaning of the word "transmissions," which according to InterDigital means "RF emissions" or signals. InterDigital Pet. at 11. While "transmissions" may mean "RF emissions"(Lanning Tr. at 1080:3-17; CX-1309C (Jackson WS) at 694, 696-97) the claim limitation in dispute recites "successively sends transmissions" not merely "transmissions," and the Federal Circuit has explained that claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). In the context of the '830 and '636 patents, "successively sends transmissions" refers to transmitting short codes to the base station. The "summary of the invention" for both the '830 and '636 patents states that
>
> > The present invention comprises a novel method of controlling transmission power during the establishment of a channel in a CDMA communication system by utilizing the transmission of a short code from a subscriber unit to a base station during initial power ramp-up. The short code is a sequence for detection by the base station which has a much shorter period than a conventional spreading code. The ramp-up starts from a power level that is guaranteed to be lower than the required power level for detection by the base station. The subscriber unit quickly increases transmission power while repeatedly transmitting the short code until the signal is detected by the base station.
>
> '830 patent, col. 3, ll. 17-29; '636 patent, col. 3, ll.16-28. In other words, the patent teaches that the "successively sends transmissions" refers to "repeatedly transmitting the short code." Consistent with the summary of the invention, the specification describes a preferred embodiment where
>
> > [w]hen a communication link is desired, the subscriber unit 16

> starts transmitting a short code at the minimum power level . . . and continuously increases the transmission power level while retransmitting the short code until it receives an acknowledgement from the base station 14 that the short code has been detected by the base station.

'830 patent, col. 7, ll. 60-65. As the ALJ found, the disclosures of the ramp-up patents "make clear that the claimed 'transmissions' from the subscriber unit to the base station comprise codes," in particular short codes, and at "no point do[] the specification[s] indicate that the claimed transmissions are generalized 'RF emissions,' as proposed by InterDigital." ID at 24.

In addition, the language of the claims provides further support. Claim 1 of the '830 patent describes "a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a base station . . . the transmitter successively sends transmissions prior to the subscriber unit receiving from the base station an indication that at least one of the successively sent transmissions has been detected by the base station," and that "each of the successively sent transmissions is shorter than the message." '83O patent, col.10, ll. 56-64; col. 11, ll. 11-12. That is, the claim itself establishes that the "successively sends transmissions" limitation refers to transmitting short codes.

Moreover, the extrinsic evidence also supports the ALJ's construction of "successively sends transmissions" to mean "transmits to the base station, one after the other, codes that are shorter than a regular length code." Indeed, InterDigital's own expert admitted that the "successively sent transmissions" of claim l refers to the short codes. Jackson Tr. 176125-177:5 (Q. All right. Now, the successively sent transmissions of claim 1, those are the short codes described in the 830 patent, correct? A. Yes, the repeated transmissions of the short code are the successively sent transmissions.).

The ALJ's construction finds support in both the intrinsic and extrinsic evidence of the patent. Accordingly, the Commission adopts the construction and declines InterDigital's invitation to change it.

(800 Comm'n Op. at 19-21.) The ALJ finds that the Commission's detailed analysis of the specification and the claim language for the '830 and the '636 patents cannot be ignored and its reasoning, namely that the invention of the Power-ramp Up patents is directed at short codes, must be followed.

In contrast, the Commission's Opinion in the 613 Remand was limited and did not

involve a similar analysis of the claim terms in the context of the claims and specification:

> Under the Court's revised constructions of the claim limitations "code" and "increased power level," the accused Nokia devices satisfy the "code/signal" and "increased power level" limitations of the asserted claims of the ''966 Patent. With respect to the "signal" limitation, which is a "sequence of chips that is transmitted" (ID at 38), the ALJ found that [redacted] is "a known sequence of chips transmitted from the handset to the base station during the random access procedure in order to facilitate further communication." *Id.* at 90. The only basis for the ALJ's finding that [redacted] does not satisfy the "signal" limitation was because it is not "a spreading code or a portion of a spreading code," but instead "consists of one of a set number of 16 signatures repeated multiple times and then scrambled using a scrambling code known to the base station." *Id.* Under the Federal Circuit's construction of the "code" limitation as "a sequence of bits (if the ones and zeros are transmitted at the 'data rate') or chips (if the ones and zeros are transmitted at the faster 'chip rate')" without limitation to spreading codes, see 690 F.3d at 1324, [redacted] satisfies the "signal" claim limitation. Therefore, the Commission finds that [redacted] satisfies the "signal" limitation of the asserted claims of the ''966 Patent.

(613 Revised Remand Op. at 18.) Thus, the Commission held [redacted] is a "code" under the Federal Circuit's claim construction and extended its finding that [redacted] is a code necessarily means that it also meets the "signal" limitation of claim 1 of the ''966 Patent. It appears that the Commission's basis for doing so was due to the parties agreement to treat the claim term "signal" in the ''966 Patent identically as the claimed phrase "code signal" from claim 1 of the U.S. Patent No. 7,117,004 (not at issue in this investigation or the 800 investigation) for the purpose of infringement analysis. (613 ID at 100.) There is no such agreement in this investigation. As such, the ALJ finds that the Commission's infringement finding in the 613 Remand Opinion [redacted] satisfies the "signal" limitation is not binding. This is especially true in light of the ALJ's own analysis of the claim term in light of the specification in the '966 and the '847 Patents, which comports with the Commission's own analysis of the similar specification in the '830 and the '636 patents in the 800 Investigation.

Moreover, the ALJ finds that the Commission's construction in the 800 Investigation is

the correct construction based on InterDigital's own representations as well. InterDigital has admitted there is no difference between "successively sends transmissions" and "successively transmits signals" in the Power Ramp-up patents. InterDigital's expert Dr. Jackson admitted in the 800 Investigation that "successively sends transmissions" and "successively transmits signals" are virtually identical limitations. (RX-4593C (Kakaes) at QQ127-128.)

b. ALJ's Claim Construction Analysis

The ALJ finds that "successively [transmits/transmitted] signals" means "successively [transmits/transmitted] sequences of chips or bits not modulated by data." As set forth above, this construction is in line by the Commission's Opinion in the 800 Investigation and is also supported by the specification.

First, consistent with the Commission's Opinion in the 800 investigation, the ALJ declines to parse out the claim term into "successively [transmits/transmitted]" and "signals." As the Commission noted in the 800 Investigation, the claim limitation in dispute recites "successively transmits signals" not merely "signals," and claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. (800 Comm'n Op. at 19 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc)); *see also On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1344 (Fed. Cir. 2006) ("Care must be taken lest word-by-word definition, removed from the context of the invention, leads to an overall result that departs significantly from the patented invention.").) Thus, the claim term to be construed is the *entire phrase* "successively transmits signals."

As with the Commission's Opinion in the 800 investigation, the ALJ finds that the terms "successively [transmits/ transmitted] signals" in the '966 and the '847 Patents are directed to

short codes, which are not modulated by data. *See* 800 Comm'n Op. at 19-21; RX-3948C (Kakaes) at QQ252-261. The patents themselves support such a reading:

> More specifically, the present invention relates to a CDMA communication system which utilizes the transmission of short codes from subscriber unit to a base station to reduce the time required for the base station to detect the signal from the subscriber unit.

(JX-0007 at 1:27-31.)

> The present invention comprises a novel method of controlling transmission power during the establishment of a channel in a CDMA communication system by utilizing the transmission of a short code from a subscriber unit to a base station during initial power ramp-up. The short code is a sequence for detection by the base station which has a much shorter period than a conventional spreading code. The ramp-up starts from a power level that is guaranteed to be lower than the required power level for detection by the base station. The subscriber unit quickly increases transmission power while repeatedly transmitting the short code until the signal is detected by the base station. Once the base station detects the short code, it sends an indication to the subscriber unit to cease increasing transmission power. The use of short codes limits power overshoot and interference to other subscriber stations and permits the base station to quickly synchronize to the spreading code used by the subscriber unit.

(JX-0007 at 3:19-23.) Furthermore, the specification further supports the ALJ's construction that the sequence of chips or bits, *i.e.*, short code, cannot be modulated by data.

> The spreading code transmitted by the subscriber unit 16 is much shorter than the rest of the spreading codes (hence the term short code), so that the number of phases is limited and the base station 14 can quickly search through the code. The short code used for this purpose carries no data.

(JX-0007 at 7:44-49; *see also* RX-3948C at QQ261-277.) The Commission agreed in the 800 investigation, noting "[w]e further agree with the ALJ's finding that the patents 'disclose that the codes successively transmitted ruing the random access process (*i.e.*, the short codes) are neither modulated with data, nor used to modulate data." (800 Comm'n Op. at 26.) Similarly, the Federal Circuit held that these short codes are not modulated by data. *InterDigital*, 690 F.3d at 1326

("[T]he short codes and access codes described in the common specification do not spread data[.]").

The extrinsic evidence also supports the ALJ's construction. Specifically, Respondents' expert testified that the random access procedure disclosed and claimed by the PRU patents would not work if the short codes were modulated by data. (RX-3948C at Q278-280; RX-4593C at Q122, 129-133.) If the short codes or the access codes transmitted during power ramp-up were modulated by data, the base station would be unable to recover either the code or the data. (RX-3948C at Q283; RX-4593C at Q123-124.)

Therefore, the ALJ finds that "successively [transmits/transmitted] signals" means a "successively [transmits/ transmitted] sequences of chips not modulated by a data signal."

5. "code"

Term	Respondents' Construction	InterDigital's Construction	Staff's Construction
"code"	"sequence of chips or bits not modulated by a data signal"	No construction necessary, but if construed, plain meaning should apply, i.e., "a sequence of chips"	"a sequence of bits (if the ones and zeros are transmitted at the 'data rate') or chips (if the ones and zeros are transmitted at the faster 'chip rate')

InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. Staff's proposed claim construction is nearly identical to that of the *Markman* Order. The ALJ hereby adopts the claim construction set forth in the *Markman* Order and during the *Markman* proceeding, which is consistent with the Federal Circuit's holding in the 613 Investigation: "sequence of chips or bits."

6. "Generated using [a same / a portion of a / a remainder of the] code"

Term	Respondents' Construction	InterDigital's/Staff's Construction
"generated using [a same / a portion of a / a remainder of the] code"	"selected from [a same / a portion of / a remainder of the] code"	"produced from [a same / a portion of / a remainder of the] code"

InterDigital's and Respondents' proposed constructions are identical to that proposed in the Delaware District Court litigation. The ALJ hereby adopts the claim construction set forth in the *Markman* Order and during the *Markman* proceeding: "produced from [a same / a portion of / a remainder of the] code."

7. "circuit"

Term	Respondents' Construction	InterDigital's/Staff's Construction
"circuit"	arrangement of electrical components without the use of software	No construction necessary, but if construed, plain meaning should apply, i.e., "arrangement of electrical components"

Respondents' proposed construction is identical to that proposed in the Delaware District Court litigation. InterDigital and Staff's proposed construction is identical to that adopted by the District Court in its May 29, 2014 *Markman* Order. The ALJ hereby adopts the claim construction set forth in the May 19, 2014 *Markman* Order: "arrangement of electrical components."

V. INFRINGEMENT DETERMINATION

A. Applicable Law

In a Section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a preponderance of the evidence. *Certain Flooring Products*, Inv. No. 337-TA-443, Commission Notice of Final Determination of No Violation of Section 337, 2002 WL 448690 at 59, (March 22, 2002); *Enercon GmbH v. Int'l Trade Comm'n*, 151 F.3d 1376 (Fed. Cir. 1998).

Each patent claim element or limitation is considered material and essential. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). Literal infringement of a claim occurs when every limitation recited in the claim appears in the accused device, *i.e.*, when the properly construed claim reads on the accused device exactly. *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996); *Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed Cir. 1995).

If the accused product does not literally infringe the patent claim, infringement might be found under the doctrine of equivalents. The Supreme Court has described the essential inquiry of the doctrine of equivalents analysis in terms of whether the accused product or process contains elements identical or equivalent to each claimed element of the patented invention. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997).

Under the doctrine of equivalents, infringement may be found if the accused product or process performs substantially the same function in substantially the same way to obtain substantially the same result. *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043 (Fed. Cir. 1993). The doctrine of equivalents does not allow claim limitations to be ignored. Evidence must be presented on a limitation-by-limitation basis, and not for the invention as a whole.

Warner-Jenkinson, 520 U.S. at 29; *Hughes Aircraft Co. v. U.S.*, 86 F.3d 1566 (Fed. Cir. 1996). Thus, if an element is missing or not satisfied, infringement cannot be found under the doctrine of equivalents as a matter of law. *See, e.g., Wright Medical*, 122 F.3d 1440, 1444 (Fed. Cir. 1997); *Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 398 (Fed. Cir. 1994); *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538-39 (Fed. Cir. 1991); *Becton Dickinson and Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 798 (Fed. Cir. 1990).

The concept of equivalency cannot embrace a structure that is specifically excluded from the scope of the claims. *Athletic Alternatives v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996). In applying the doctrine of equivalents, the Commission must be informed by the fundamental principle that a patent's claims define the limits of its protection. *See Charles Greiner & Co. v. Mari-Med. Mfg., Inc.*, 92 F.2d 1031, 1036 (Fed. Cir. 1992). As the Supreme Court has affirmed:

> Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.

Warner-Jenkinson, 520 U.S. at 29.

To prove direct infringement, InterDigital must prove by a preponderance of the evidence that each of the accused products either literally infringe or infringe under the doctrine of equivalents the asserted claims of the asserted patents. *Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001).

A party can also indirectly infringe a patent. To prevail on a claim for indirect infringement, a patentee must first demonstrate direct infringement, and then establish that the "defendant possessed the requisite knowledge or intent to be held vicariously liable." *Dynacore*

Holdings Corp. v. U.S. Philips Corp., 363 F.3d 1263, 1272–73 (Fed. Cir. 2004). The knowledge requirement must be met by a showing of either actual knowledge or willful blindness. *Global–Tech Appliances, Inc. v. SEB S.A.*, — U.S. ——, 131 S. Ct. 2060, 2068 (2011).

Under 35 U.S.C. § 271(b), "[w]hoever actively induces infringement of a patent shall be liable as an infringer." "To prove induced infringement, the patentee must show direct infringement, and that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement." *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1363 (Fed. Cir. 2012) (internal quotations omitted).

The Supreme Court has held that "induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement." *Global-Tech*, 131 S. Ct. at 2070. In so holding, the Supreme Court rejected the Federal Circuit's "deliberate indifference" to a "known risk" test. *Id.* at 2071. It explained that the "knowledge" required under § 271(b) could be satisfied by a showing of actual knowledge or "willful blindness." *Id.* at 2068–71. The Supreme Court explained that a defendant acts with willful blindness if she "subjectively believe[s] that there is a high probability that a fact exists" and "take[s] deliberate actions to avoid learning of the fact." *Id.* at 2070, 2070 n.9. In contrast, a defendant who "merely knows of a substantial and unjustified risk of [ ] wrongdoing" acts recklessly, and a defendant who "should have known of a similar risk, but in fact, did not" acts negligently. *Id.* at 2071. "Inducement requires evidence of culpable conduct, directed to encouraging another's infringement, not merely that the inducer had knowledge of the direct infringer's activities." *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (*en banc*).

Under 35 U.S.C. § 271(c), "[w]hoever offers to sell or sells within the United States or imports into the Unites States a component of a patented machine, manufacture, combination, or

composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be specifically made to or specially adapted for use in the infringement of the patent, and not a staple article or commodity suitable for substantial non-infringing use, shall be liable as a contributory infringer." "Contributory infringement imposes liability on one who embodies in a non-staple device the heart of a patented process and supplies the device to others to complete the process and appropriate the benefit of the patented invention." *Vita–Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1327 (Fed. Cir. 2009). To state a claim for contributory infringement, an infringer must sell, offer to sell or import into the United States a component of an infringing product "knowing [the component] to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non infringing use." 35 U.S.C. § 271(c); *see Lucent Techs. v. Gateway, Inc.*, 580 F.3d 1301, 1320 (Fed. Cir. 2009). As with induced infringement, a claim for contributory infringement must also contain allegations of the requisite knowledge of the patent-in-suit at the time of infringement. *Global-Tech*, 131 S. Ct. at 2068. In addition, the patentee bears the burden of proving that the accused products have no substantial non-infringing uses. *See Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354, 1363 (Fed. Cir. 2006).

A seller of a component of an infringing product can also be held liable for contributory infringement if: (1) there is an act of direct infringement by another person; (2) the accused contributory infringer knows its component is included in a combination that is both patented and infringing; and (3) there are no substantial non-infringing uses for the accused component, *i.e.*, the component is not a staple article of commerce. *Carborundum Co. v. Molten Equip. Innovations, Inc.*, 72 F.3d 872, 876 (Fed. Cir. 1995).

B. The '151 Patent

InterDigital accuses several Nokia and ZTE LTE devices of infringing the '151 Patent. (CIB at 82.) The products each include [redacted]. (*Id.*) The parties agree there are no substantive or definitive differences in [redacted]. (CIB at 82; RIB at 42-743; SIB at 32.) Additionally, the parties agree that [redacted]. (*Id.*)

For the reasons set forth below, the ALJ finds that InterDigital has failed to prove by a preponderance of the evidence that the accused products meet the "same physical downlink control channel" limitation and the "[determining/to determine] whether the downlink control information is intended for the WTRU based on WTRU identity (ID)-masked cyclic redundancy check (CRC) parity bits, and [if so determining/and to determine] whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel" steps of claims 1 and 16.

1. "[A/The] Same Physical Downlink Control Channel"

InterDigital argues that asserts that the Physical Downlink Control Channels (PDCCH) in the accused products meets the "same physical downlink control channel" limitation. (CIB at 84-87.) InterDigital argues that "'same' PDCCH must be capable of carrying – but need not actually carry – both types of channel assignment information." (CIB at 84.) InterDigital further argues that "[n]othing in the claims requires actually receiving both uplink ***and*** downlink channel assignment information on the same PDCCH." (CIB at 8586) InterDigital asserts that the claims "would not require that 'both' types of channel assignment information are for shared channels. The term 'both' applies to 'channel assignment information,' alone, and is not limited

to a specific channel type." (CIB at 86.) Finally, InterDigital argues that that DCI Format 1A carries both uplink and downlink channel assignment information, namely that the DCI Format 1A PUCCH transmission power control (TPC) command is uplink channel assignment information. (CIB at 86-87.)

The ALJ finds that InterDigital has failed to prove by a preponderance of the evidence that the accused products meet this limitation. As set forth *supra* in Section IV.B.3, the ALJ construed the claim term to mean "[a/the] channel used for transfer of downlink control information that occupies a same radio resource." Under this claim construction, the ALJ finds that the PDCCH of the accused products does not meet this limitation for at least three reasons.

[redacted]

The ALJ finds InterDigital's arguments that a PDCCH can satisfy the claims because a DCI Format 1A message can include channel assignment information for "both a physical

downlink shared channel and an uplink [nonshared] channel such as the PUCCH" to be unpersuasive. First, the asserted claims require that the uplink channel assignment information be for an uplink shared channel. (JX-0002 at claim 1, claim 16; RX-4590C at Q603; CX-2492C (Brogioli) at Q406; Brogioli Tr. 439:8-440:4; 487:20-488:17.) [redacted] Thus, the ALJ finds that a TPC command relating to a non-shared channel does not constitute channel assignment information for a shared channel.

As for InterDigital's argument the claims do not require actually receiving both uplink ***and*** downlink channel assignment information on the same channel and InterDigital's arguments relating to "capability", the ALJ finds those arguments unpersuasive. The ALJ construed the claim term to mean "[a/the] channel used for transfer of downlink control information that occupies a ***same*** radio resource." (emphasis added). There is nothing in the claims (or the claim construction) that would support a reading of mere "capability." Claim 1 states

> 1. A method for utilizing channel assignment information for an uplink shared channel or a downlink shared channel, the method comprising:

> a wireless transmit/receive unit (WTRU) receiving downlink control information including downlink or uplink channel assignment information via a same physical downlink control channel, both downlink channel assignment information and uplink channel assignment information being received via the same physical downlink control channel;
>
> the WTRU determining whether the downlink control information is intended for the WTRU based on WTRU identity (ID)-masked cyclic redundancy check (CRC) parity bits, and if so determining whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel;
>
> and the WTRU utilizing the radio resources for the uplink shared channel or the downlink shared channel.

(JX-0002 at claim 1.) There is nothing in the claim language addressing capability, rather the claim is a method claim directed to using a single "same" channel to receive *both* downlink and uplink channel assignment information. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311 (Fed. Cir. 2006) ("Method claims are only infringed when the claimed process is performed, not by the sale of an apparatus that is capable of infringing use.") Indeed, the claim language itself describes receiving both uplink ***and*** downlink channel assignment information on the same channel: "receiving downlink control information ***including downlink or uplink channel assignment information*** via a same physical downlink control channel." (emphasis added). Moreover, the specification further supports the requirement that the same single channel receive both downlink and uplink channel assignment information:

> The common control channel 112 is *utilized* for transmission of channel assignment information *for both* UL and DL transmissions.

(JX-0002 at 3:30-32.)

> The radio resources assignment information for *both* the HS-DSCH and the EU *is transmitted* through the common control channel 112. In accordance with the present invention, the common control channel 112 *is utilized for the transmission of radio resources assignment information for both UL and DL transmissions* and

> a specific indication is provided to distinguish whether the radio resource assignment is for either UL or DL transmission.

(JX-0002 at 3:37-45.) The specification clearly describes the actual use of a single channel to receive both uplink and downlink channel assignment information.

Thus, for the reasons set forth above, the ALJ finds that InterDigital has failed to prove by a preponderance of the evidence that the accused products meet the claim limitation "[a/the] same physical downlink control channel"

> **2. ""[determining/to determine] whether the downlink control information is intended for the WTRU based on WTRU identity (ID)-masked cyclic redundancy check (CRC) parity bits, and [if so determining/and to determine] whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel;"**

InterDigital argues that the accused products meet this limitation. [redacted]

As set forth *supra* in Section IV.B.7, the ALJ construed the "and to" language of claim 16 to require that the "determine" be performed in a specific sequence. There is no dispute that that claim 1 requires that the two "determining" steps be performed in a specific sequence. (RX-4590C at QQ36, 700; CX-1014C (Brogioli) at Q259.)

The ALJ finds that the accused products do not practice this limitation. The evidence shows that [redacted]

Moreover, as set forth in Section IV.B.7, the ALJ further determined that claim 16, as with claim 1, requires that the "determine" steps of claim 16 be performed in a specific sequence, namely the "determine whether the channel assignment information is for assigning radio resources for the uplink shared channel or the downlink shared channel" cannot occur until after determining that the downlink control information is intended for the WTRU. The evidence shows that [redacted]

Therefore, the ALJ finds that InterDigital has failed to prove by a preponderance of the evidence that the accused products meet this claim limitation.

3. Dependent Claims 2-6 and 8-9

Claims 2-6 and 8-9 depend on independent claim 1. Inasmuch as each claim limitation must be present in an accused device in order for infringement to be found (either literally or under the doctrine of equivalents), a device cannot infringe a dependent claim if it does not practice every limitation of the independent claim from which it depends. *See Warner-Jenkinson Co.*, 520 U.S. at 40; *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007). Furthermore, the Federal Circuit explained that:

> One may infringe an independent claim and not infringe a claim dependent on that claim. The reverse is not true. One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.

Wahpelton Canvas Co., Inc. v. Frontier, Inc., 870 F.2d 1546, 1552 (Fed. Cir. 1989). Thus, as the ALJ has found that independent claim 1 is not infringed, then dependent claims 2-6 and 8-9 are also not infringed.

4. Claims 16-21 & 23-24

In addition to the reasons set forth in Section V.B.2, the ALJ further finds that claim 16 is not infringed because the ALJ found claim 16 indefinite as set forth *supra* in Section IV.B.6. *Honeywell Int'l Inc. v. U.S. Int'l Trade Comm'n*, 341 F.3d 1332, 1342 (Fed. Cir. 2003) ("Because the claims are indefinite, the claims, by definition, cannot be construed. Without a discernable claim construction, an infringement analysis cannot be performed.") (internal citations omitted); *Certain Laser Bar Code Scanners and Scan Engines, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-551, Initial Determination at 110 (January 27, 2009) ("With regard to the limitation [. . .], the undersigned has held hereinabove that the limitation is invalid pursuant to 35 U.S.C. § 112, ¶ 2, because the limitation is insolubly ambiguous and therefore indefinite. An indefinite claim cannot be infringed.")

Because claim 16 is not infringed, then dependent claims 17-21 and 23-24 cannot be infringed as a matter of law. *Wahpelton*, 870 F.2d at 1552.

5. Indirect Infringement

Indirect infringement requires that there be a showing of an underlying act of direct infringement. *See Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1326 (Fed. Cir. 2004); *Fujitsu Ltd. v. Netgear, Inc.*, 620 F.3d 1321, 1330-31 (Fed. Cir. 2010). The ALJ found *supra* that InterDigital failed to show that the accused products directly infringe the asserted claims for at least two reasons. Thus, InterDigital has also failed to show Respondents indirectly infringement of the asserted claims.

C. The '847 and the ''966 Patent

InterDigital argues that the accused products infringe all of the asserted claims of the '847 Patents and the ''966 Patent. (CIB at 26-46.) Respondents argue that the accused products do not infringe the "successively transmit signals," and the "each of the successively transmitted signals and the message are generated using the same code" limitations for the ''966 Patent and the '847 Patents. Respondents argue that the accused products also do not include the claimed "circuit;" do not "[re-]synchronize to a pilot signal;" do not satisfy the limitation "successively transmitted signals generated using a portion of a code;" and do not satisfy the limitation "prior to receiving the indication, the mobile station is not uniquely identified to the base station" for the '847 Patents. (RIB at 122-136.) Staff agrees that the accused products do not meet the "successively [transmits/transmitted] signals" limitation for the '966 and the '847 Patents. (SIB at 154-162; 185-191.)

For the reasons set forth below, the ALJ finds that InterDigital has failed to prove by a preponderance of the evidence that the accused products meet the "successively [transmits/transmitted] signals" limitation of the ''966 Patent and the '847 Patents and, therefore, the accused products do not infringe the independent claim 1 of the ''966 Patent and independent claims 3 and 5 of the '847 Patents.

1. "successively [transmits/transmitted] signals"

The ALJ construed "successively [transmits/transmitted] signals" to mean "successively [transmits/transmitted] sequence of chips or bits not modulated by data." *See supra* Section IV.C.4. InterDigital argues that the accused products meet this limitation because [redacted]

[redacted] (CIB at 36.) InterDigital further argues that in light of the Commission's Opinion in the 613 Remand Investigation, the ALJ must find that the [redacted] satisfied this limitation. For the reasons set forth above in Section IV.C.4, the ALJ finds that he does not need to do so. In particular, as noted by the ALJ *supra*, the Commission's infringement finding appears to have been based on an agreement between the parties regarding infringement and not on a detailed analysis of the claims and the accused products. (*See* Section IV.C.4.a.)

The ALJ finds that, consistent with the 800 Commission Opinion, the accused products do not infringe the asserted claims of the '966 and the '847 Patents because [redacted]

[redacted]

This is consistent with the Commission's Opinion in the 800 Investigation and in the 613 Investigation, which both held that [redacted]

[redacted]

(800 Comm'n Op. at 28.) The 613 ID, which the Commission agreed, similarly states:

[redacted]

(613 ID at 89, 92; 613 Remand Opinion at 18 [redacted] The ALJ finds that the accused products do not meet this limitation of the claim1 of the '966 and claims 3 and 5 the '847 Patents.

2. Dependent claims 3, 6, 8-9 and 11 of the ''966 Patent

Claims 3, 6, 8-9 and 11 depend on independent claim 1 of the ''966 Patent. Inasmuch as each claim limitation must be present in an accused device in order for infringement to be found (either literally or under the doctrine of equivalents), a device cannot infringe a dependent claim if it does not practice every limitation of the independent claim from which it depends. *See Warner-Jenkinson Co.*, 520 U.S. at 40; *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007). Furthermore, the Federal Circuit explained that:

> One may infringe an independent claim and not infringe a claim dependent on that claim. The reverse is not true. One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.

Wahpelton Canvas Co., Inc. v. Frontier, Inc., 870 F.2d 1546, 1552 (Fed. Cir. 1989). Thus, as the ALJ has found that independent claim 1 is not infringed, then dependent claims 3, 6, 8-9 and 11 are also not infringed.

3. Indirect Infringement

Indirect infringement requires that there be a showing of an underlying act of direct infringement. *See Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1326 (Fed. Cir. 2004); *Fujitsu Ltd. v. Netgear, Inc.*, 620 F.3d 1321, 1330-31 (Fed. Cir. 2010). The ALJ found *supra* that InterDigital failed to show that the accused products directly infringe the asserted claims. Thus, InterDigital has also failed to show Respondents indirectly infringement of the asserted claims.

VI. VALIDITY

A. Background

1. Burden of Proof

One cannot be held liable for practicing an invalid patent claim. *See Pandrol USA, LP v. AirBoss Railway Prods., Inc.*, 320 F.3d 1354, 1365 (Fed. Cir. 2003). However, the claims of a patent are presumed to be valid. 35 U.S.C. § 282; *DMI Inc. v. Deere & Co.*, 802 F.2d 421 (Fed. Cir. 1986). Although a complainant has the burden of proving a violation of section 337, it can rely on this presumption of validity.

Respondents have the burden of proving invalidity of the patent. This "burden is constant and never changes and is to convince the court of invalidity by clear evidence." *i4i v. Microsoft Corp*, 131 S. Ct. 2338, 2243 (2010) (citing Judge Rich in *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F. 2d 1350, 1360 (CA Fed. 1984)). Respondents' burden of persuasion *never shifts*. *Id.* The risk of "decisional uncertainty" remains on the respondent. *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008); *see also PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1303, 1305 (Fed. Cir. 2008); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1360 (Fed. Cir. 2007). Thus, it is Respondent's burden to prove by clear and convincing evidence that any of the alleged prior art references anticipate or render obvious the asserted claims of the patents in suit. Failure to do so means that Respondents lose on this point. *Id.* (stating, "[I]f the fact trier of the issue is left uncertain, the party with the burden [of persuasion] loses.").

Respondents also bear the burden of going forward with evidence, *i.e.*, the burden of production. *Id.* This is "a shifting burden the allocation of which depends on where in the process of a trial the issue arises." *Id.* However, this burden does not shift until a respondent

presents "evidence that might lead to a conclusion of invalidity." *Pfizer*, 480 F.3d at 1360. Once a respondent "has presented a prima facie case of invalidity, the patentee has the burden of going forward with rebuttal evidence." *Id.*

2. Indefiniteness

The definiteness requirement of 35 U.S.C. § 112 ensures that the patent claims particularly point out and distinctly claim the subject matter that the patentee regards to be the invention. *See* 35 U.S.C. § 112(b); *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366 (Fed. Cir. 2004). If a claim's legal scope is not clear enough so that a person of ordinary skill in the art could determine whether or not a particular product infringes, the claim is indefinite, and is, therefore, invalid. *Geneva Pharm., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003). "The fact that [a patentee] can articulate a definition supported by the specification ... does not end the inquiry. Even if a claim term's definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope." *Halliburton Energy Servs., Inc. v. M–I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008).

Thus, it has been found that:

> When a proposed construction requires that an artisan make a separate infringement determination for every set of circumstances in which the composition may be used, and when such determinations are likely to result in differing outcomes (sometimes infringing and sometimes not), that construction is likely to be indefinite.

Halliburton Energy Servs., 514 F.3d at 1255.

"[B]ecause claim construction frequently poses difficult questions over which reasonable minds may disagree, proof of indefiniteness must meet 'an exacting standard.'" *Wellman, Inc. v. Eastman Chemical Co.*, 642 F.3d, 1355, 1366 (Fed. Cir. 2011) (citations omitted). "An accused

infringer must ... demonstrate by clear and convincing evidence that one of ordinary skill in the relevant art could not discern the boundaries of the claim based on the claim language, the specification, the prosecution history, and the knowledge in the relevant art." *Id.*

3. Written Description

The first paragraph of 35 U.S.C. § 112 requires:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the same ...

(emphasis added.)

The Federal Circuit has interpreted 35 U.S.C. § 112, ¶ 1, to include a written description requirement that requires a patent specification reasonably convey "to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). "Compliance with the written description requirement is a question of fact." *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1376 (Fed. Cir. 2009). Terms need not be used *in haec verba, Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995), and the requirement can be satisfied by "words, structures, figures, diagrams, formulas, etc.," *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). A description that merely renders the claimed subject matter obvious, however, does not satisfy the requirement. *Id.* at 1571-72.

4. Anticipation

A patent may be found invalid as anticipated under 35 U.S.C. § 102(a) if "the invention was known or used by others in this country, or patented or described in a printed publication in this country, or patented or described in a printed publication in a foreign country, before the

invention thereof by the applicant for patent." 35 U.S.C. § 102(a).[4] A patent may be found invalid as anticipated under 35 U.S.C. § 102(b) if "the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States." 35 U.S.C. § 102(b). Under 35 U.S.C. § 102(e), a patent is invalid as anticipated if "the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent." 35 U.S.C. § 102(e). Anticipation is a question of fact. *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1177 (Fed. Cir. 1993) ("*Texas Instruments II*"). Anticipation is a two-step inquiry: first, the claims of the asserted patent must be properly construed, and then the construed claims must be compared to the alleged prior art reference. *See, e.g., Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003). It is axiomatic that claims are construed the same way for both invalidity and infringement. *W.L. Gore v. Garlock, Inc.,* 842 F.2d 1275, 1279 (Fed. Cir. 2008.)

"Claimed subject matter is 'anticipated' when it is not new; that is, when it was previously known. Invalidation on this ground requires that *every element and limitation* of the claim was *previously described in a single prior art reference*, either *expressly or inherently*, so as to place a person of ordinary skill in possession of the invention." *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008) (emphasis added) (citing *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003) and *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1267-69 (Fed. Cir. 1991)).

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[4] The ALJ notes that a number of the provisions (and the numbering) of Title 35 have changed with the passage the Leahy-Smith America Invents Act. Because this patent is governed by the prior provisions of the Patent Act as it was in force when the asserted patents issued, the ALJ cites only to the relevant provisions as they were before the AIA.

To anticipate, a single prior art reference must be enabling and it must describe the claimed invention, *i.e.*, a person of ordinary skill in the field of the invention must be able to practice the subject matter of the patent based on the prior art reference without undue experimentation. *Sanofi*, 550 F.3d at 1082. The presence in said reference of *both* a specific description and enablement of the subject matter at issue are required. *Id.* at 1083.

To anticipate, a prior art reference also must disclose all elements of the claim within the four corners of said reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *see also Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1345 (Fed. Cir. 2007) (stating, "Anticipation is established by documentary evidence, and requires that every claim element and limitation is set forth in a single prior art reference, in the same form and order as in the claim."). Further, "[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements 'arranged as in the claim.'" *Id.* (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). The Federal Circuit explained this requirement as follows:

> The meaning of the expression 'arranged as in the claim' is readily understood in relation to claims drawn to things such as ingredients mixed in some claimed order. In such instances, a reference that discloses all of the claimed ingredients, but not in the order claimed, would not anticipate, because the reference would be missing any disclosure of the limitations of the claimed invention 'arranged as in the claim.' But the 'arranged as in the claim' requirement is not limited to such a narrow set of 'order of limitations' claims. Rather, *our precedent informs that the 'arranged as in the claim' requirement applies to all claims and refers to the need for an anticipatory reference to show all of the limitations of the claims arranged or combined in the same way as recited in the claims, not merely in a particular order*. The test is thus more accurately understood to mean 'arranged or combined in the same way as in the claim.'

Id. at 1370 (emphasis added). Therefore, it is not enough for anticipation that a prior art reference simply contains all of the separate elements of the claimed invention. *Id.* at 1370-71 (stating that "*it is not enough [for anticipation] that the prior art reference discloses part of the claimed invention, which an ordinary artisan might supplement to make the whole*, or that it includes multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention." (emphasis added)). Those elements must be arranged or combined in said reference in the same way as they are in the patent claim.

If a prior art reference does not expressly set forth a particular claim element, it still may anticipate the claim if the missing element is inherently disclosed by said reference. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002); *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Inherent anticipation occurs when "the missing descriptive material is 'necessarily present,' not merely probably or possibly present, in the prior art." *Id.* In other words, inherency may not be established by probabilities or possibilities. *See Continental Can*, 948 F.2d at 1268. Thus, "[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.*

The critical question for inherent anticipation here is whether, as a matter of fact, practicing an alleged prior art reference necessarily features or results in each and every limitation of the asserted claim at issue. *See, e.g., Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320 (Fed. Cir. 2004).

If there are "slight differences" between separate elements disclosed in a prior art reference and the claimed invention, those differences "invoke the question of obviousness, not anticipation." *NetMoneyIN*, 545 F.3d at 1071; *see also Trintec*, 295 F.3d at 1296 (finding no anticipation and stating that "the difference between a printer and a photocopier may be minimal

and obvious to those of skill in this art. Nevertheless, obviousness is not inherent anticipation."). Statements such as "one of ordinary skill may, in reliance on the prior art, complete the work required for the invention," and that "it is sufficient for an anticipation if the general aspects are the same and the differences in minor matters is only such as would suggest itself to one of ordinary skill in the art," *actually relate to obviousness*, not anticipation. *Connell*, 722 F.2d at 1548.

5. Obviousness

Included within the presumption of validity is a presumption of non-obviousness. *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 714 (Fed. Cir. 1984). Obviousness is grounded in 35 U.S.C. § 103, which provide, *inter alia*, that:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negative by the manner in which the invention was made.

35 U.S.C. § 103(a). Under 35 U.S.C. § 103(a), a patent is valid unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues underlying the ultimate obviousness decision." *Richardson-Vicks Inc.*, 122 F.3d at 1479; *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 863 (Fed. Cir. 1993).

Obviousness is a question of law based on underlying facts, as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). "The Graham factors are (1) the scope and content of the prior art, (2) the difference between the prior art and the claimed invention, (3) the level of

ordinary skill in the field of the invention, and (4) any relevant objective considerations." *Soverain Software LLC v. NewEgg, Inc.*, 705 F.3d 1333, 1336 (Fed. Cir. 2013). "The Graham Court explained that 'the ultimate question of patent validity is one of law.'" *Id.* (citing *Graham*, 383 U.S. at 17).

"Generally, a party seeking to invalidate a patent as obvious must demonstrate 'by clear and convincing evidence that a skilled artisan would have been motivated to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *OSRAM Sylvania, Inc. v. Am. Induction Techs., Inc.*, 701 F.3d 698, 706-707 (Fed. Cir. 2012) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)); *see also Amgen, Inc. v. F. Hoffman–LA Roche Ltd.*, 580 F.3d 1340, 1362 (Fed. Cir. 2009) ("An obviousness determination requires that a skilled artisan would have perceived a reasonable expectation of success in making the invention in light of the prior art." (citations omitted)). "The Supreme Court has warned, however, that, while an analysis of any teaching, suggestion, or motivation to combine known elements is useful to an obviousness analysis, the overall obviousness inquiry must be expansive and flexible." *OSRAM*, 701 F.3d at 707.

Obviousness may be based on any of the alleged prior art references or a combination of the same, and what a person of ordinary skill in the art would understand based on his knowledge and said references. If all of the elements of an invention are found, then:

> a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. *Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure.*

Velander v. Garner, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (emphasis added) (internal citations omitted).

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is a reason to combine the prior art references. *See C.R. Bard v. M3 Sys.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). For example:

> *[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.* Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, *it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered*, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

KSR Int'l Co. v. Teleflex, Inc., 550 U.S. 398, 418-19 (2007) (emphasis added). The Federal Circuit case law previously required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a "teaching, suggestion, or motivation to combine. The Supreme Court has rejected this "rigid approach" employed by the Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*, 500 U.S. 398, 415 (2007). The Supreme Court stated:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. Sakraida and Anderson's-Black Rock are illustrative–a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.

> Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.
>
> [. . .]
>
> The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advance that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.

KSR, 550 U.S. at 417-419. The Federal Circuit has harmonized the KSR opinion with many prior circuit court opinions by holding that when a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, "the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so." *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007)(citing *Medichem S.A. v. Rolabo S.L.*, 437 F.3d 1175, 1164 (Fed. Cir. 2006)); *Noelle v. Lederman*, 355 F.3d 1343, 1351-

52 (Fed. Cir. 2004); *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1121 (Fed. Cir. 2000) and *KSR*, 550 U.S. at 416 ("a combination of elements 'must do more than yield a predictable result'; combining elements that work together 'in an unexpected and fruitful manner' would not have been obvious"). Further, a suggestion to combine need not be express and may come from the prior art, as filtered through the knowledge of one skilled in the art. *See Certain Lens-Fitted Film Pkgs.*, Inv. No. 337-TA-406, Order No. 141 at 6 (May 24, 2005).

"Secondary considerations," also referred to as "objective evidence of non-obviousness," must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. *Graham*, 383 U.S. at 17-18. A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness. *Richardson-Vicks Inc.*, 122 F.3d at 1483-84. Objective evidence of non-obviousness may include evidence of the commercial success of the invention, long felt but unsolved needs, failure of others, copying by others, teaching away, and professional acclaim. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 857 (1984); *Avia Group Int'l, Inc. v. L.A. Gear California*, 853 F.2d 1557, 1564 (Fed. Cir. 1988); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). The burden of showing secondary considerations is on the patentee and, in order to accord objective evidence substantial weight, a patentee must establish a nexus between the evidence and the merits of the claimed invention; a *prima facie* case is generally set forth "when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851

F.2d 1387, 1392 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 956 (1988); *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm'n Op. (March 15, 1990). Once a patentee establishes nexus, the burden shifts back to the challenger to show that, *e.g.*, commercial success was caused by "extraneous factors other than the patented invention, such as advertising, superior workmanship, etc." *(Id.)* at 1393.

Generally, a prior art reference that teaches away from the claimed invention does not create *prima facie* case of obviousness. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994; *Certain Rubber Antidegradants*, Inv. No. 337-TA-533 (Remand), Final ID (Dec. 3, 2008) (stating, "*KSR* reaffirms that obviousness is negated when the prior art teaches away from the invention.")). However, the nature of the teaching is highly relevant. *Id.* "A reference may be said to *teach away when* a person of ordinary skill, upon reading the reference, would be *discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant*." *Id.* (emphasis added). For example, "a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *Id.*

The Federal Circuit has recently explained, moreover, that the obviousness inquiry requires examination of all four Graham factors. *E.g.*, *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1375 (Fed. Cir. 2012). Indeed, courts must consider all of the Graham factors prior to reaching a conclusion with respect to obviousness. *In re Cyclobenzaprine Hydrochloride Extended–Release Capsule Patent Litig.*, 676 F.3d 1063, 1076–77 (Fed. Cir. 2012) (collecting cases). At all times, the burden is on the defendant to establish by clear and convincing evidence that the patent is obvious. *Id.* at 1077–78.

B. The '151 Patent

Respondents argue that the asserted claims of the '151 Patent are anticipated and/or obvious in light of certain prior art references, indefinite and fail to satisfy the written description requirement. For the reasons set forth below, the ALJ finds that Respondents have failed to prove by clear and convincing evidence that the asserted claims of the '151 Patent are invalid.

1. Siemens Reference

Respondents argue that the Siemens Reference anticipates or renders obvious the asserted claims of the '151 Patent. (RIB at 60.) Respondents further assert that the Siemens Reference, in combination with one or more of 3GPP 25.212 V5.2.0 and Motorola 683, renders the asserted claims obvious. (RIB at 60.) Staff agrees that asserted claims 1-6, 9, 16-21 and 24 of the '151 Patent are obvious in light of the Siemens Reference alone or in combination with 3GPP 25.212 V5.2.0, but disagrees that the Siemens Reference anticipates the asserted claims. (SIB at 77-91; 92-93.)

InterDigital argues that Siemens Reference fails to disclose an "uplink shared channel"; a WTRU ID-masked CRC; and the "and if so" requirement of claim 1. (CIB at 104-113.) InterDigital further argues that the Siemens Reference fails to disclose numerous elements recited by the dependent claims. (*Id.*)

The Siemens Reference (RX-3425) is a paper published and presented at the January 2003 Meeting of Working Group 1. (RX-3425). It is entitled "Downlink Control Channel Configuration for Enhanced Uplink Dedicated Transport Channel." (*Id.*) Siemens discloses the use of a shared control channel to carry both uplink and downlink channel assignment information and suggests re-using the preexisting physical High Speed Shared Control Channel ("HS-SCCH") to send such messages. (RX-3425 at 1.) It discloses distinguishing uplink-related

transmissions from downlink-related transmissions by making use of previously unused values within a preexisting data structure. (*Id.*) Siemens also discloses identifying the intended recipient of the control message by using the pre-existing coding format used for that purpose, *i.e.*, a device-specific CRC value. (*Id.* at 1-2.)

a. Anticipation

"Uplink Shared Channel" Limitation

There is no dispute that the Siemens Reference is prior art under §102(a). (RIB at 60); (CIB at 104); (SIB at 66). The main dispute appear to center around whether the EU-DCH in the Seimens Reference is the same EU disclosed in the '151 Patent, *i.e.*, whether the Siemens Reference discloses an "uplink shared channel." While there has been a strong showing by Respondents, the ALJ finds that it just barely misses the clear and convincing evidence standard.

Respondents argue that the EU-DCH is an uplink shared channel based on the express disclosures of the 151 Patent and the Provisional Application, statements by the applicants during prosecution, and the admissions of the inventors. Specifically, Respondents argue:

> The EU-DCH is the only enhanced uplink channel that was identified as a study item by Working Group 1 for Release 6 and is the same channel that is referred to as the Enhanced Uplink or EU channel in the 151 Patent. RX-3954C (Min) at Q580; JX-0002 (151 Patent) at 1:56-2:13; JX-0048 (Prov. App.) at ¶¶ [0005], [0011], [0014].
>
> Specifically, it is undisputed that the only "Study Item" related to Enhanced Uplink prior to the 151 Patent was the study item for an "Uplink Enhancements for Dedicated Transport Channels" that was approved by 3GPP in September, 2002. *See* RX-3321 (Enhanced Uplink Study item); RX-3954C (Min) at QQ206-225; Brogioli Tr. 1763:6-16; 1808:7-1809:15, 1809:21-1810:18; 1819:15-1820:7. A 3GPP Study Item is distinct from a typical 3GPP submission because it is document that identifies an area that everyone in the group should investigate. *See* Brogioli Tr. 1810:19-1811:2. Every Enhanced Uplink 3GPP document of record in this Investigation discusses the same EU-DCH and the same study item. *See id.*; *see also* Brogioli Tr. 1811:13-1812:12, 1812:23-1813:21; RX-3431(Nokia 3GPP Submission); RX-3000 (Motorola Reference); RX-3425 (Siemens Ref.). Further, named inventor Rudolf clarified that the only "enhanced uplink data channel" being studied was an enhanced uplink transport channel. RX-4012C

> (Rudolf Dep.) at 296:12-297:10 ("the enhancement that 3GPP was specifically looking for was about an enhanced uplink transport channel").
>
> In addition, the applicants confirmed during prosecution of the 151 Patent's parent that this studied channel, which is the same channel discussed in the 151 Patent, was a *shared* channel, not a dedicated channel. Specifically, the applicant argued that the "EU channel and the HSDPA channel are high speed packet access channels, which are shared channels among a plurality of WTRUs, and are completely different in nature from dedicated channels." RX-3364 (405 Pros. History) at NK868…920-21 (emphasis in original); *see also* RX-3954C (Min) at QQ587-88; RDX-4101. The "Enhanced Uplink" channel referenced in this statement was the same "Enhanced Uplink" Channel that was the subject of the 3GPP study item. JX-0048 (Prov. App.), ¶ [0005] (disclosing that the Release 6 Enhanced Uplink Study study item was underway). Because the EU-DCH is the only EU channel that was ever studied by 3GPP for high speed packet access, the prosecution history confirms that the EU-DCH was a shared channel. *See supra* at Section IV.B.2.b; RX-3425 (Siemens Ref.) at § 1 (disclosing that "fast scheduling" should be researched with regard to the EU-DCH). Further, although its acronym includes the word "Dedicated," the EU-DCH is a shared channel within the meaning of the 151 Patent because it can be used to convey information from a plurality of WTRUs to the base station. RX-3954C (Min) at Q581. Confirming this is Dr. Dick—a named inventor, attendee of the Working Group meetings where the Siemens Reference was discussed, and participant of the research on the EU-DCH—who admitted that the EU-DCH was intended to be shared by multiple handsets. RX-4008C (Dick Dep.) at 160:16-161:3. Therefore, InterDigital's argument that the EU-DCH is dedicated directly contradicts the only disclosed embodiment of the 151 Patent (which references the same "Enhanced Uplink" channel) and the testimony of the inventors who participated in the Working Group meetings that discussed that channel. Indeed, the only testimony supporting InterDigital's position is that offered in Dr. Brogioli's witness statement. That testimony, however, is not credible because Dr. Brogioli's opinion has changed throughout this case. He initially took the position that a person skilled in the art would not even know what the "Enhanced Uplink" channel was in the 151 Patent. Brogioli Tr. 1819:19-1820:7. His later testimony that the same channel cannot refer to the EU-DCH rings hollow in light of his earlier position, and is certainly not sufficient to trump the testimony to the contrary from the inventors and Dr. Min.

(RIB at 62-64.) While the ALJ finds that Respondents have made a strong showing that the use of EU-DCH in the Siemens Reference could and likely does refer to an uplink shared channel, the ALJ finds that it does not rise to a clear and convincing showing. *Technology Licensing Corp.*, 545 F.3d at 1327 ("When an alleged infringer attacks the validity of an issued patent, [the]

well-established law places the burden of persuasion on the attacker to *prove invalidity by clear and convincing evidence*." (emphasis added). The implication that the EU-DCH in the Siemens Reference and the EU in the '151 Patent are the same is certainly a strong possibility based on the inventor's participation in the working group, the focus of the working group and other work occurring at that time, and the contemporaenousness of the Siemens Reference with the prosecution of '151 Patent. However, a strong possibility is not clear and convincing. There must be something more to show in the Siemens Reference itself that the EU-DCH, with the explicit statement that it is an "Enhanced Uplink **Dedicated** Transport Channel" (emphasis added), is a shared uplink channel and not a dedicated channel. Respondents point to nothing in the Siemens Reference itself that explicitly states that the EU-DCH is not to be understood as a dedicated channel, but is, instead, to be understood as a shared channel. Rather, Respondents turn to the prosecution history of the '151 Patent, during which the Siemens Reference was never raised, and argue that by virtue of the arguments raised therein it would necessarily have an effect on the Siemens Reference, *e.g.* "Because the EU-DCH is the only EU channel that was ever studied by 3GPP [working group] for high speed packet access, the prosecution history confirms that the EU-DCH was a shared channel." However, the arguments raised in the '151 Patent related to the invention disclosed therein -- it is not clear how arguments directed at that invention play a role in understanding the disclosure of an independent and uncited reference. Respondents point to nothing in the Siemens Reference itself that clearly and convincingly discloses an "uplink shared channel." *See Motorola, Inc. v. InterDigital Tech. Corp.*, 121 F.3d 1461, 1473 (Fed. Cir. 1997) ("Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there. An expert's conclusory

testimony, unsupported by the documentary evidence, cannot supplant the requirement of anticipatory disclosure in the prior art reference itself.") (citations omitted). Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Siemens Reference discloses the "uplink shared channel."

"And if So" Limitation

The ALJ further finds that the Siemens Reference fails to disclose the "and if so" limitation. Respondents argue that the Siemens Reference inherently discloses this limitation:

> Because the HS-SCCH is a shared channel, the handset must have a mechanism for determining whether the downlink control information received on the HS-SCCH was intended for that handset. That the determination may happen either before or after the handset determines whether the channelization code transmitted on the HS-SCCH was a channelization code for the uplink or downlink channel. A person of ordinary skill in the art would have known, however, that it would be beneficial to have the determination of whether the transmission is intended for that handset occur before determining whether the control information is for the HS-DSCH or EU-DCH because, if the determination indicated that the downlink control information was not for that handset, the handset could avoid using resources to further process information that was either not intended for it or was incorrectly received. Thus, the Siemens Reference discloses that the determination of whether the transmission is intended for the handset could be a preliminary check and that such a check would have the benefit of conserving resources.

(RIB at 70-71) (citations omitted). First, the ALJ finds that Respondents' inherency argument fails because it is nothing more than a possibility and not "necessarily present." *Rexnord Industries, LLC. V. Kappos*, 705 F.3d 1347, 1354 (Fed Cir. 2013)("a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference,")(citing *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed.Cir.2003)); *Trintec Indus., Inc. v. Top–U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed.Cir.2002) ("Inherent anticipation requires that the missing descriptive material is ' necessarily present,' not merely probably or possibly present, in the prior art.")

(citing *In re Robertson*, 169 F.3d 743, 745 (Fed.Cir.1999). Indeed, while "conserving resources" is certainly a highly desirable trait, it does not follow that this goal "necessarily" leads to determining whether a transmission is intended for the handset as a preliminary check. Moreover, given the significance of the "and if so" limitation to the '151 Patent (*see* Section IV.B.7), the ALJ finds Respondents' inherency argument unpersuasive. If such a disclosure is as inherent as Respondents assert, *i.e.*, a necessary consequence of trying to conserve resources, then the patentees should not need to explicitly say so in order to overcome a prior art reference. Such an inherency would necessarily exist for the '151 Patent as well and the importance and necessity of distinguishing the '151 Patent from the prior art based specifically on the sequence of determining steps would have been unnecessary since the order of steps would have been "inherent" to one of ordinary skill in the art. Rather, since the sequence of determination steps is, rather, a mere probability or possibility, the patentees were required to explicitly state the sequence in order to overcome the Du reference. Therefore, the ALJ finds that the Siemens Reference fails to disclose the "and if so" limitation of claim 1.[5]

For the reasons set forth above, the ALJ finds that the Siemens Reference fails to disclose at least the "uplink shared channel" limitation and the "and if so" limitation. Therefore, the ALJ finds that Respondents have failed to prove by clear and convincing evidence that independent claims 1 and 16 the '151 Patent are invalid for anticipation by the Siemens Reference.

Since independent claims 1 and 16 are not anticipated, then dependent claims 2-6, 8-9, 17-21 and 23-24 are also not anticipated. *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730

[5] Respondents state that its arguments relating to claim 1 apply equally to claim 16. (*See* RIB at 78.) Consequently, the ALJ's analysis and conclusion apply equally as well.

F.2d 1440, 1446 (holding that the dependent claim cannot be anticipated because the independent claim is not anticipated).

b. Obviousness

Respondents argue that even if the Siemens Reference does not disclose an uplink shared channel, then it "would have been obvious to make it a shared channel because the downlink data channel on which the EU-DCH was being modeled is indisputably a shared channel." (RIB at 65.) Specifically, Respondents argue

> It is undisputed that the use of shared channels and the benefits of using those channels were well known in the art, and thus a person of ordinary skill in the art would have considered it obvious to use an uplink shared channel. RX-3954C (Min) at QQ1335-1345. Further, it is undisputed that "fast scheduling" of radio resources for an uplink channel is only necessary for an uplink shared channel. CX-2492C (Brogioli) at Q800 ("Fast and dynamic allocation of radio resources is indicative of, and a person of ordinary skill would recognize, most readily implemented with, the use of shared channels . . ."). The Siemens Reference discloses that 3GPP was investigating the use of "fast scheduling" for Enhanced Uplink, and thus a person of ordinary skill would have considered it obvious that an uplink shared channel could be used for Enhanced Uplink. *See* RX-3425 (Siemens Ref.) at § 1; Brogioli Tr. 1814:10-18:16.

(RIB at 65.) The ALJ finds that such conclusory sentences fail to meet the clear and convincing evidence standard required to prove obviousness.

Similarly, Respondents obviousness arguments for the "and if so" limitation similarly fail. Respondents argue

> For the same reasons, to the extent the Siemens Reference does not inherently disclose the "and if so" limitation, it would be obvious to a person of ordinary skill in the art in light of the Siemens Reference that the intended for you determination could be made before the uplink/downlink determination in order to conserve resources that would be expended by unnecessarily performing the uplink/downlink determination. *See* RX-3954C (Min) at Q490; JX-0048 (Prov. App.) at ¶¶ [0013] (acknowledging that battery efficient operation was important for Enhanced Uplink), [0015] (acknowledging that use of a new control channel decreased battery efficiency).

(RIB at 71.) The ALJ finds that these arguments also fail for the same reasons set forth above, namely that the conclusory, one sentence obviousness explanations is insufficient to rise to the level of clear and convincing evidence.

For the reasons set forth above, the ALJ finds that Respondents have failed to show by clear and convincing evidence that it would have been "obvious" to one of ordinary skill in the art to modify the Siemens Reference fails to disclose at least the "uplink shared channel" limitation and the "and if so" limitation. Therefore, the ALJ finds that Respondents have failed to prove by clear and convincing evidence that claims 1 and 16 of the '151 Patent are invalid for obviousness by the Siemens Reference.

Since independent claims 1 and 15 are not obvious, dependent claims 2-6, 8-9, 17-21 and 23-24 are also not obvious. *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) ("Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.") (citing *Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108, (Fed.Cir.1987); *In re Abele*, 684 F.2d 902, 910, (CCPA 1982).)

2. Siemens CC

Respondents argue that Siemens CC renders the asserted claims obvious alone and/or in combination with one or more of 3GPP TS 25.212, InterDigital 810, and/or Motorola 683. (RIB at 79.)

As with the Siemens Reference, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Siemens CC inherently or explicity discloses the "and if so" limitation or that it would have been obvious for one of ordinary skill in the art. Specifically, Respondents argue

> Siemens CC discloses the "and if so" element of this limitation. Specifically, the HS-UE ID was transmitted on the HS-PDCCH to allow the handset to determine

> whether the message was intended for it. RX-3954C (Min) at Q1131. A person of ordinary skill in the art would have understood that the HS-UE ID could be used to make the determination of whether a message was intended for the handset either before or after the handset determined what type of message was transmitted. RX-3954C (Min) at Q1131. A person of ordinary skill in the art would have understood that it would be beneficial to have the determination of whether the message was intended for that handset before determining whether the control information is for the HS-DSCH or PUSCH because, if the determination indicated that the message was not for that handset, the handset would not want to waste resources by further processing information that was either not intended for it or was incorrectly received. See RX-3954C (Min) at Q1131; JX-0048 (Prov. App.) at ¶¶ [0013] (acknowledging that battery efficient operation was important for Enhanced Uplink), [0015] (acknowledging that use of a new control channel decreased battery efficiency). To the extent this element is not explicitly disclosed, it would have been obvious for these same reasons.

(RIB at 82-83.) As with the Siemens Reference, the ALJ finds that Siemens CC does not inherently disclose the "and if so" claim element. Again, the ALJ finds that Respondents' inherency argument fails because it is nothing more than a possibility and not "necessarily present." *Rexnord Industries*, 705 F.3d at 1354. Indeed, while "conserving resources" is certainly a highly desirable trait, , it does not follow that this goal "necessarily" leads to determining whether a transmission is intended for the handset prior to determining if the message is for the uplink shared channel or the downlink shared channel. Moreover, Respondents' single sentence dedicated to obviousness ("To the extent this element is not explicitly disclosed, it would have been obvious for these same reasons.") fails to meet the clear and convincing evidence standard.

For the reasons set forth above, the ALJ finds that Respondents have failed to show by clear and convincing evidence that it would have been "obvious" to one of ordinary skill in the art to modify the Siemens CC fails to disclose at least the "uplink shared channel" limitation. Therefore, the ALJ finds that Respondents have failed to prove by clear and convincing evidence that the asserted claims of the '151 Patent are invalid for obviousness by the Siemens CC alone

and/or in combination with one or more of 3GPP TS 25.212, InterDigital 810, and/or Motorola 683. *In re Fine*, 837 F.2d at 1076 ("Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.")

3. Secondary Considerations of Nonobviousness

Objective indicia of nonobviousness play a critical role in the obviousness analysis. They are "not just a cumulative or confirmatory part of the obviousness calculus but constitute[ ] independent evidence of nonobviousness." *Ortho–McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008). Objective indicia "can be the most probative evidence of nonobviousness in the record, and enables the court to avert the trap of hindsight." *Crocs, Inc. v. Int'l Trade Comm'n*, 598 F.3d 1294, 1310 (Fed. Cir. 2010) (internal quotation marks omitted).

As discussed above, Respondents have failed to prove by clear and convincing evidence that the asserted claims of the '151 Patent are invalid for obviousness.

4. Indefiniteness

Respondents argue that claim 16 in invalid for indefinites. The ALJ found claim 16 indefinite *supra* in Section IV.B.6.

5. Written Description

a. "simultaneously"

Respondents argue that claim 8 and 23 are invalid for lack of written description because the '151 Patent specification fails to describes a channel that carries uplink and downlink channel assignment information simultaneously. (RIB at 91-92.) Respondents argue that InterDigital relies on the second and third embodiments to show written description support for the "simultaneously" limitation, but that neither of these embodiments provides written description for the "simultaneously" limitation. (RIB at 91-92.) Specifically, in the second and third

embodiments, the channel carries either downlink channel assignment information or uplink channel assignment information, but never both simultaneously. (*Id.*) Respondents further argue that the few instances of the word "simultaneously" in the specification fail to provide written description for claim 8. The word "simultaneously" is exclusively used in the specification to describe how a handset performs operations after receiving a channel, but is not used to describe carrying downlink channel assignment information and uplink channel assignment information simultaneously. (*Id.*)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that claims 8 and 23 are invalid for failure to satisfy the written description requirement. Specifically, the ALJ agrees with Staff and InterDigital and finds that the "simultaneous" transmission of downlink channel assignment information and uplink channel assignment information is adequately disclosed:

> However, it should be understood that the reference to an HSDPA and an EU is just for describing the preferred embodiment of the present invention, and the teachings of the present invention may be applied to any system for utilizing a common control channel for transmitting channel assignment information for both UL and DL transmissions simultaneously.
>
> * * *
>
> In accordance with the present invention, the common control channel 112 is utilized for the transmission of radio resources assignment information for both UL and DL transmissions and a specific indication is provided to distinguish whether the radio resource assignment is for either UL or DL transmission. Therefore, the common control channel 112 occupies a shared DL radio resource space, as defined by a set of SF=128 channelization codes, for both DL and UL transmissions simultaneously, and the WTRU 106 is configured to recognize whether a particular transmission is intended for assigning radio resources for the DL or the UL transmissions.

(JX-0002 at 3:15-21; 3:40-50.) Thus, the ALJ finds that Respondents have failed to show by clear and convincing evidence that claims 8 and 23 are invalid for lack of written description.

b. "uplink shared channel"

Respondents argue that "the term "EU channel" in the 151 Patent would, according to Dr. Brogioli, have had no meaning to a person of ordinary skill in the art, rendering the term "uplink shared channel" in the Asserted Claims invalid for lack of written description. In short, either the "uplink shared channel" is the same channel disclosed in the 3GPP study item and the Siemens Reference, or that term lacks written description support because only the EU channel under study in 3GPP and disclosed in Siemens was disclosed in the 151 Patent." (RIB at 92-93.) Respondents further argue that Dr. Brogioli's testimony was impeached at the hearing and should be afforded little to no weight. (*Id.*)

The ALJ finds Respondents arguments unpersuasive. The entire crux of Respondents' "written description" argument for this claim limitation is based entirely on expert testimony and his understanding of the term. Certainly, Respondents may point out any instances of impeachment and question the credibility of the expert witness. However, absent a detailed explanations as to how the *specification of the '151 Patent* fails to disclose an uplink shared channel, the ALJ declines to even consider what Respondents have set forth to be a written description argument.

6. Inequitable Conduct

It is unclear whether Respondents continue to assert an inequitable conduct defense with relation to the '151 Patent. Respondents noted in their brief:

> On the issue of intent, in light of Order No. 94, Respondents understand that the ALJ questioned whether there was sufficient evidence to support a finding of intent, in light of the attorneys' claim that they believed the Siemens reference had been cited. During discovery, Respondents filed a motion to compel un-redacted time entries from Volpe & Koenig that Respondents believe would have completed the factual record by shedding light what the attorneys knew about the status of the Siemens Reference, but Respondents' motion to compel was denied on procedural grounds and Respondents reserve the right to appeal that ruling.

(RIB at 95.) The ALJ finds that, for purposes of this Initial Determination, Respondents have failed to set forth any arguments relating to an inequitable conduct defense.

C. '847 and ''966 Patent

1. Anticipation

Respondents contend that U.S. Patent No. 5,673,259 ("Quick") anticipates claims 1 of the ''966 Patent and claim 5 of the '847 Patents. InterDigital and Staff argue that Quick fails to anticipate either patent. (CIB at 56-65; SIB at 176-178, 195.) InterDigital argues that Quick fails to anticipate either patent because it fails to disclose the – (i) "first accessing," (ii), "message," (iii) "only subsequent to," and (iv) "generated using a same code" limitation. (CIB at 56.) Staff argues that Quick fails to anticipate because it fails to disclose the "successively [transmits/transmitted] signals" limitation. (SIB at 176-178.)

The parties do not dispute that Quick is 102(e)(2) prior art. (CIB at 56-64 *generally*; RIB at 137; SIB at 176.)

a) Quick Reference Disclosure

Quick discloses a CDMA network that improves on the pre-existing IS-95 Standard by extending IS-95 with additional new features. (RX-3948C at Q528.)

IS-95 was the first widely-adopted CDMA-based digital cellular telephony standard. (*Id.*) It was, however, voice-centric and thus not well-suited to handling bursts of data such as email and other such transmissions. (*Id.* at QQ159, 580.) One of the things Quick adds to IS-95, and the focus of Quick's invention, is a new channel that Quick calls a "random access channel." *Id.* As the title of the patent suggests ("Random Access Communications Channel for Data Services"), this channel is particularly well suited for data services.

Quick's new random access channel is designed to carry certain types of call setup messages and other messages that are "bursty"—that is, involve the sending of a short burst of data. (RX-2357 at 27:33-36.) In this regard, Quick describes that his new random access channel can send bursty messages that are too long—that is, have too much data—to be sent as such on IS-95's preexisting "Access Channel." (*Id.* at 18:34-41.) One such message is an Origination Message that is too long (*i.e.*, contains too many dialed digits) to be sent over IS-95's pre-existing access channel without being broken up into two separate messages. (*Id.*; RX-3948C at Q490, 500.) In this brief, as Dr. Kakaes did, an Origination Message that is too long to fit on an IS-95 Access Channel is referred to as a "too-long Origination Message."[6]

The relevant functionality in Quick relates to how a mobile device gains access to a network using Quick's new random access channel when the mobile device wants to send a too-long Origination Message to initiate a phone call. Quick discloses that a mobile device accesses his new random access channel by using a power ramp-up procedure. (RX-3948C at Q490.) That procedure involves: (1) repetitively sending User ID Request probe signals at increasing power levels until one is detected and acknowledged by the base station, and then (2) sending the too-long Origination Message over the random access channel. (*Id.*)

The first step in Quick is the "power ramp-up." Because Quick is an extension of IS-95, Quick's preferred embodiment uses IS-95's power ramp-up procedure when a mobile device wants to first access Quick's network from an idle state to communicate with a base station. So in a first step, a mobile device successively transmits access probe signals at increasing power levels, as defined in the then-existing IS-95 Standard. (RX-3948C at Q506-507, 544, 574-576;

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[6] Dr. Kakaes refers to the Origination Message sent over Quick's new random access channel as a "too long" Origination Message to distinguish it from, and avoid confusion with, shorter origination messages that can fit, and be sent as such, on a conventional IS-95 access channel (such as the User ID Request). (*See* RX-3948C at Q490.)

RX-2357 at 18:23-29, 18:49-54; RX-2359 at § 6.6.3.1, Figs. 6.6.3.1.1.1-1A and B.) Each access probe signal includes two parts: a first part called a preamble, and a second part called the message capsule. (RX-2357 at 8:54-58, 16:50-56; RX-2359 at Figure 6.6.3.1.1.1-1B.)

The preamble is a code not modulated by data. (RX-3948C at Q500.) The message capsule contains a User ID Request, which is not found in IS-95. (RX-2357 at 18:23-28; RX-3948C at Q500.) The User ID Requests are sent over IS-95's access channel during power ramp up. (RX-3948C at Q507, 546-51; RX-2357 at 18:23-29, 18:49-54; RX-2359 at § 6.6.3.1, Figs. 6.6.3.1.1.1-1A and B.)

When the base station detects an access probe, it sends back an acknowledgement signal that provides the subscriber unit with the requested User ID and indicates to the mobile device that the User ID Request access probe has been detected. (RX-3948C at Q506-509; RX-2357 at 20:62-22:19, Figs. 12B and 12C.) This ends the power ramp-up phase, and the subscriber unit stops sending access probes. (RX-2357 at 20:62-22:19, Fig. 12C.)

With the power ramp-up phase completed, the subscriber unit now transmits its too-long Origination Message. This is a call setup message. It includes the dialed telephone number, and tells the base station that the mobile device wants to make a call. (RX-3948C at Q510; RX-2357 at 18:34-41.) In addition, the too-long Origination Message requests the base station to tell the mobile device what channel it should use for sending subsequent messages. (RX-3948C at Q512; RX-2357 at 2:2-8, 27:6-7.) The Origination Message in this context is like an IS-95 Origination Message, but is too long to fit on a conventional IS-95 access channel without being split into two separate messages. (RX-3948C at Q577; RX-2357 at 26:31-34.) So the too-long Origination Message is sent instead over Quick's new "random access channel," which is a focus of Quick's invention and an addition to what previously existed in IS-95.

The base station responds to the too-long Origination Message with an acknowledgement signal that indicates to the mobile device what particular traffic channel to use for subsequent messages. (RX-3948C at Q500 513-514; RX-2357 at 10:62-64.) The mobile station and the base station can now communicate over the dedicated traffic channel. (RX-3948C at Q515; RX-2357 at 2:2-8, 27:6-7.)

The ALJ finds that the Quick reference fails to anticipate claim 1 of the ''966 Patent and claim 5 of the '847 Patents because it fails to meet, at least, the "first accessing a CDMA network and wants to establish communications with a base station ... over a communication channel to be indicated by the base station" limitation and the "successively transmits signals" limitations.

b) "first accessing a CDMA network"

The parties agreed that "first accessing a CDMA network" means "beginning to transmit on a shared frequency band of a/the [CDMA] network."

Respondents argue that the User ID Request Message satisfies the "successively transmits signals" element. However, the evidence shows that the mobile device in Quick does not send the User ID Request Message when "first accessing" the network. Rather, it sends Packet/Paging Channel Request Messages when first accessing the network, not User ID Request Messages. (RX-3948C at ¶ 595 (admitting that the ***first step*** that "must occur before a mobile station can transmit on the random access channel [i.e., Reverse Packet Channel]" is "the mobile station must be assigned a Packet/Paging Channel by the base station."); *see also* RX-3948C at ¶ 504, 578.) By the time the mobile sends the User ID Request Message, it has already performed a random access procedure and been assigned a communication channel – the Packet/Paging Channel. (CX-2495C at ¶ 480.) Consequently, the ALJ finds that Quick fails to

meet the "first accessing a CDMA network" because the alleged "successively transmits signal," *i.e.*, the User ID Request Message, is not the "beginning [of] transmit on a shared frequency band of a/the [CDMA] network." Rather, the Packet/Paging Channel is the "first access" while the User ID Request Message is a later access. Thus, since the "successively transmits signals" (the User ID Message) is not the first access with the CDMA network, Quick fails to meet this limitation.

c) "successively transmits signals"

The evidence further shows that Quick fails to meet the "successively transmits signals" limitation. As set forth *supra* in Section IV.C.4, the ALJ found that the claim term "successively transmits signals" means "successively [transmits/ transmitted] sequences of chips not modulated by a data signal."

Respondents argue that the preamble of a User ID Request Message access probe satisfies this limitation. (CX-2495C at ¶ 482.) The evidence shows, however, an access probe preamble cannot be the claimed "successively transmits signal" because IS-95 standard referenced in Quick requires that the access probe preamble be sent together with the message capsule. (*Id.*) The Commission has repeatedly found that "[t]he IS-95 references do not permit the access probe preamble to be sent separately from its corresponding access probe message capsule." (CX-0519C at 148; CX-0380C at 83-84.) The access probe, including the message capsule, not just the preamble is successively transmitted in Quick. (CX-2495C at ¶ 482.) In other words, the access probe is modulated by data, *i.e.*, "the message." Thus, the User ID Request Message fails to satisfy the "successively transmits signals" limitation.

For the reasons set forth above, the ALJ finds that Quick fails to disclose at least the "first accessing a CDMA network" limitation and the "successively transmits signals" limitation.

Consequently, the ALJ finds that Respondents have failed to prove by clear and convincing evidence that the asserted independent and dependent claims of the '966 and the '847 Patents are anticipated by Quick. *RCA Corp.*, 730 F.2d at 1446 (holding that the dependent claim cannot be anticipated because the independent claim is not anticipated).

2. Obviousness

a) Quick in combination with IS-95

Respondents argue that Quick alone or in combination with IS-95 would render the asserted claims of the '966 and the '847 Patents obvious. (RIB at 137.) InterDigital and Staff argue that Quick alone or in combination with IS-95 do not render the asserted claims obvious for the same reasons that Quick does not anticipate. (CIB at 56-65; SIB at 176-178.)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that Quick in combination with IS-95 renders the asserted claims obvious. First, the ALJ finds that Respondents have failed to provide a motivation to combine certain features of Quick and certain features of IS-95 to create the inventions disclosed in the asserted patents. Respondents simply assert

> Using IS-95 with Quick would have been obvious because Quick expressly teaches to build his disclosed preferred embodiment based on IS-95. Quick extensively discusses IS-95, expressly describing modifications to be made to IS-95 that add new features to that system to produce Quick's system. Quick describes in detail how these new features are integrated and operate with IS-95. Thus, Quick expressly teaches, suggests, and motivates the use of his techniques in combination with an IS-95 system, to produce the claimed combination of the asserted '966 Patent claims.

(RIB at 141.) Respondents fail to provide any motivation to combine the specific elements from Quick with the specific elements from IS-95. *C.R. Bard,* 157 F. 3d at 1352 ("[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. [. . .] it can be important to identify a reason

that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered...") Respondents' conclusory statement that it "would have been obvious because Quick expressly teaches to build his disclosed preferred embodiment based on IS-95" is insufficient. There is no explanation as to the specific combination of elements from each reference or why one of ordinary skill in the art would be motivated to combine such elements.

The ALJ further finds that Quick in combination with IS-95 fails to disclose the "successively transmits signals" limitation for the same reasons set forth *supra*. Specifically, the IS-95 standard referenced in Quick requires that the access probe preamble be sent together with the message capsule and, therefore, is modulated by data.

Finally, Respondents' arguments relating to obviousness for Quick in combination with IS-95 are interspersed throughout their arguments for anticipation. In most instances, Respondents simply assert at most that the given claim element is disclosed in Quick "alone or in combination with IS-95" without further explanation. This is insufficient to meet the clear and convincing evidence standard. Respondents also conclusorily assert that

> To the extent the IS-95 features discussed above are held not incorporated into Quick by reference, each such IS-95 feature nevertheless is inherently disclosed in Quick because the feature is necessarily present. IS-95 describes only one implementation of each relevant feature inherently disclosed by Quick, and implementation of Quick's disclosed embodiment necessitates the presence of each such IS-95 feature. Thus, for example, when Quick tells the reader to consider a "standard" CDMA Access Channel and the functionality of this channel when implementing Quick's "Access Channel" (which is used to transmit Quick's User ID Requests), this inherently requires using the power ramping and successive transmission functionality of IS-95 since there is no other way to operate on IS-95's Access Channel.

(RIB at 140-141) (citations omitted). Such a cursory explanation of inherency is fails to meet the clear and convincing evidence standard.

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that Quick in combination with IS-95 renders the asserted independent and dependent claims of the '966 and the '847 Patents obvious. *In re Fine*, 837 F.2d at 1076 ("Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.").

b) Baier in view of Lucas

Respondents argue that a paper entitled "Design Study for a CDMA-Based Third-Generation Mobile Radio System," authored by Alfred Baier et al ("Baier") in combination with a reference entitled "Synchronisation Procedure in Up & Down-Link in the CoDiT Testbed" by Phillippe Lucas ("Lucas") renders the asserted claims of the '966 and the '847 Patents obvious. (RIB at 151.) InterDigital and Staff argue that Baier in combination with Lucas does not render the asserted claims obvious. (CIB at 65-69; SIB at 180-183.) InterDigital argues that the combination fails to disclose (1) successively transmitting signals; (2) the indication limitation; (3) the message; and (4) power ramp up or power control of claim 1 of the ''966 Patent or claims 3 and 5 of the '847 Patents. (CIB at 65-69.) Staff agrees. (SIB at 180-183.)

The parties do not dispute that Baier and Lucas are 102(b) prior art references. (CIB at 65; RIB at 151; and SIB at 181.)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that Baier in combination with Lucas renders the asserted claims of the '966 and the '847 Patents obvious. First, the ALJ finds that Respondents have failed to provide a motivation to combine the references. Respondents simply argue

> It would have been obvious to a person of ordinary skill in the art at the relevant time to combine Baier with Lucas. Both are contemporaneous documents describing different aspects of CODIT in the May 1994 timeframe. Both describe in detail different aspects of the same CODIT system, and Baier even mentions the synchronization and power ramp up procedure described in Lucas.

(RIB at 152) (citations omitted). The mere fact that documents are contemporaneous or references the other is not motivation to combine. It fails to explain how and why the requisite elements in each reference are combined in same manner as the claimed invention. Thus, the ALJ finds that Respondents have failed to provide a motivation to combine Baier and Lucas.

InterDigital and Staff argue that Lucas and Baier are not enabling disclosures. (CIB at 65; SIB at 183.) The ALJ agrees. The evidence shows that neither reference contains sufficient detail to enable one of ordinary skill in the art to build either system. *In re Kumar*, 418 F.3d 1361, 1368 (Fed. Cir. 2005) ("Although published subject matter is "prior art" for all that it discloses, in order to render an invention unpatentable for obviousness, the prior art must enable a person of ordinary skill to make and use the invention.") (citing *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed.Cir.1989)). For example, Lucas provides a general outline of some ideas relating to a synchronization procedure in a handful of bullet points. (CX-2495C at ¶ 540; CX-0380C at 88.) Baier provides a cursory overview of channels that may be used in wireless communication systems. (CX-02495C at ¶ 676-82.) The evidence shows that the lack of detail in the references is especially problematic because both references introduce features not commonly used in CDMA systems in the 1995-1997 timeframe, such as closed-loop power control in the random access phase. (*Id.* at ¶ 548, 678-82.) As such, the ALJ finds the references are not enabling.

Moreover, the ALJ finds that the combination of references also fails to disclose the following limitations: "successively transmits signals;" "a message indicating to the base station

that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station;" and "until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station."

The evidence shows that Lucas does not disclose a handset that wants to establish communications "over a communication channel to be indicated by the base station." (CX-2495C at ¶ 746.) Rather, Lucas discloses successively transmitting signals to achieve uplink synchronization, not to ask the base station to assign a channel. (CX-2495C at ¶ 715-19, 746; CX-0519C at 142.)

The evidence shows that Baier in view of Lucas does not disclose the claimed "message." The RA information bits identified in Lucas are not the claimed message because they are simply 252 coded bits that represent mobile device's MS identification. (CX-2495C at ¶ 733-36, RX-2358 at 6.) The RA information bits only relay a mobile device's MS identification, not that the mobile device wants to establish communications with the base station over the communication channel to be indicated by the base station. (CX-2495C at ¶ 695-97, 733-41.) The evidence further shows that the combination of Lucas with Baier's disclosure of dedicated channels fails to create a message that requests a communication channel – rather the transform Lucas's RA information bits still simply represent the MS identification of the mobile device. (CX-2495C at ¶ 744.)

The evidence further shows that neither Lucas nor Baier disclose the base station indicating the communication channel, or that the indication occurs only after the base station receives the RA information bits. (CX-2495C at ¶ 743-46.) The evidence shows that once the base station receives RA information bits identifying a mobile handset, "[t]hese identification

bits are sent back to the [handset] for acknowledgment, if they are correct synchronization is OK[.]" (RX-2358 (Lucas) at 5.) The evidence shows that Lucas does not disclose when the power control bits are transmitted, much less that they are transmitted in response to the base station detecting a mobile's Gold Code. (CX-2495C at ¶ 690-92, 720-25.)

Thus, for the reasons set forth above, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the asserted independent and dependent claims of the ''966 Patent and the '847 Patents are obvious in view of Baier and Lucas. *In re Fine*, 837 F.2d at 1076 ("Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.").

c) Secondary Considerations of Nonobviousness

Objective indicia of nonobviousness play a critical role in the obviousness analysis. They are "not just a cumulative or confirmatory part of the obviousness calculus but constitute[ ] independent evidence of nonobviousness." *Ortho–McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008). Objective indicia "can be the most probative evidence of nonobviousness in the record, and enables the court to avert the trap of hindsight." *Crocs, Inc. v. Int'l Trade Comm'n*, 598 F.3d 1294, 1310 (Fed. Cir. 2010) (internal quotation marks omitted).

As discussed above, Respondents have failed to prove by clear and convincing evidence that the asserted claims are invalid for obviousness.

3. Written Description

Respondents argue that all the asserted claims in both the '847 and the ''966 Patents are invalid for lack of written description. Specifically, Respondents argue that the specification does not provide the required written description for the following claim terms: (1) claim 3 of the

'847 Patent: "a remainder of the code"; (2) all asserted claims of the '966 Patent and claim 5 of the '847 Patent: "to be indicated by the base station"; (3) all asserted claims of the '966 Patent and claim 5 of the '847 Patent: "generated using a same code"; and (4) all asserted claims of both the 847 and the '966 Patents: "successively transmits signals" under InterDigital's proposed claim construction. (RIB at 161-68; RRB at 31-38.) InterDigital argues that each of the asserted claims meets the written description requirement. (CIB at 47-55; CRB at 26-32.) Staff agrees with Respondents with respect to arguments (1) and (4), while disagreeing with respect to arguments (2) and (3). (SIB at 167-173, 193-95; SRB at 53-54.)

The ALJ finds that Respondents have failed to prove by clear and convincing evidence that the asserted claims of the 847 and the '966 Patents are invalid for failure to satisfy the written description requirement.

a. "a remainder of the code"

Claim 3 of the '847 Patent recites "a transmitter configured such that . . . the transmitter successively transmits signals generated using a portion of a code until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station" and "subsequent to the subscriber unit receiving the indication, the transmitter transmits a signal generated using *a remainder of the code*." (JX-0007 at 11:61-12:7, emphasis added.)

Respondents have failed to prove by clear and convincing evidence that claim 3 of the '847 Patents is invalid for failure to satisfy the written description requirement. Respondents focus their argument on the premise that "the manner in which transmitted signals are derived or generated after power ramp-up is completed is outside the scope of the invention." (RIB at 161.) There is, however, a signal transmitted immediately "subsequent to the subscriber unit receiving

the indication" that still occurs before the power ramp-up is completed: the periodic access code used in the second portion of the power ramp-up. (JX-0007 at 8:32-45.) Respondents have failed to provide any rationale by which this periodic access code is not generated using a remainder of the code. For this reason alone, the ALJ finds that Respondents have not met their heavy burden of persuasion under the clear and convincing evidence standard.

The Staff correctly identifies this "periodic access code" as pertinent to whether the claimed "remainder" has sufficient written description support. More specifically, the Staff argues that the specification does not disclose that the access code is generated using "a remainder" of the same code used to generate the short code. (SIB at 194-95.) The ALJ disagrees.

The specification states that, after receiving the indication, "subscriber unit 16 ceases transmitting the short code (step 166) and starts continuously transmitting a periodic access code (step 166)." (JX-0007 at 8:35-37.) The short codes and access code are both generated from the same spreading code. (*Id.* at 10:10-22.) The spreading code is itself synchronized with the periodic pilot code. (*Id.*) As further described below, switching from transmitting short codes to an access code would involve switching to a signal generated using a remainder of the same spreading code used to generate the short codes.

The '847 Patent describes a first embodiment including a base station that continuously transmits a pilot code to all subscriber units in a transmitting range. (*Id.* at 5:5-13.) This pilot code is a spreading code used for communicating with the subscriber units. (*Id.*) Subscriber units must acquire the pilot code in order to synchronize and communicate with the base station. (*Id.*) After detecting the pilot code, a subscriber unit aligns its locally generated transmit spreading code with the received pilot code so that both codes start at the same time. (*Id.* at

5:14-32, figure 3.) The pilot code is repeatedly reacquired during periods of inactivity and the transmit spreading code is likewise resynchronized. (*Id.* at 5:14-56.) The specification provides every indication that the subscriber unit attempts to maintain synchronization between the transmit spreading code and the base station's pilot code at all times. Indeed, doing so means that the subscriber units introduce "no additional delay as far as the phase of the spreading codes are concerned" such that the relative delay between the pilot code and the transmit spreading code received at the base station is solely due to the round trip propagation delay. (*Id.*)

This constant synchronization between the transmit spreading code and pilot code is maintained in the preferred embodiment's transmission of short codes followed by an access code. The base station still continuously transmits a periodic pilot code. (JX-007 at 9:50-54.) The subscriber still generates a transmit spreading code, which in the preferred embodiment is transmitted by a short code and access code transmitter at different stages of the power ramp up. (*Id.* at 10:10-22.) The timing of the transmit spreading code is still adjusted by the pilot code detector through the acquisition process. (*Id.*) The subscriber unit uses the same spreading code, synchronized to the periodic pilot code, to generate both the short codes and the access code. (*Id.*) So, when the subscriber unit switches from broadcasting short codes to an access code, it would maintain the synchronization of the transmit spreading code to the pilot code, a synchronization that each subscriber unit goes to great lengths to maintain. (*See id.* at 5:14-32.) A first subset of the transmit spreading code would be used to generate and transmit the short codes and a second, later-in-time subset of the transmit spreading code would be used to generate and transmit the access code. The ALJ finds that this, the second, later-in-time subset of the spreading code used to generate and transmit the access code, constitutes sufficient written description for the subscriber unit transmitting "a signal generated using *a remainder of the code*."

b. "to be indicated by the base station"

Independent claim 1 of the '966 Patent (along with its dependent claims) and independent claim 5 of the '847 Patent each recite a subscriber unit that "wants to establish communications with a base station associated with [a] network over a communication channel *to be indicated by the base station*," the subscriber unit comprising a transmitter configured to transmit "to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel *to be indicated by the base station*." (JX-0006 at 10:62-11:19; JX-0007 at 12:31-63; emphasis added.) Both independent claims require first "successively transmit[ing] signals" until receiving "an indication" that the signals have been detected by the base station, and that the claimed message is "transmitted only subsequent to the subscriber unit receiving the indication." (JX-0006 at 10:62-11:19; JX-0007 at 12:31-63.)

Respondents argue that the "to be indicated by the base station" limitation is not disclosed by the common specification of the 847 and '966 Patents because "the common specification does not disclose *when* the communication channel over which a subscriber unit and a base station will communicate is indicated." (RIB at 162-63, emphasis added.) According to the Respondents, the language "to be indicated" requires "that the indication is to occur in the future relative to the sending of the claimed message." (*Id.* at 162.) In their reply brief, Respondents concede that the 010 patent, incorporated by reference in both the 847 and '966 Patents, discloses the base station sending a code seed to the subscriber unit that contains channel assignment information. (RRB at 33.) As such, the Respondents argue that the "only issue, then, is *when* that code seed is transmitted to the subscriber unit." (RRB at 33.) Both InterDigital and Staff argue that the phrasing "to be indicated by the base station" is fully supported by the

common specification of the 847 and '966 Patents and the specification of the incorporated-by-reference 010 patent. (CIB at 47-49; CRB at 26-27; SIB at 168-70.)

The ALJ disagrees that the language "to be indicated" requires that the communication channel only be indicated after the sending of the claimed message. The contested claims cover a subscriber unit "configured" such that certain actions are taken to allow communication "over a communication channel to be indicated by the base station." (JX-0006 at 10:62-11:19; JX-0007 at 12:31-63.) The plain meaning of this phrasing requires that the communication channel be indicated by the base station; there is no requirement as to when the channel is indicated in relation to the other communications between the subscriber unit and the base station. The phrasing "to be indicated by the base station" is simply a requirement of the communication channel itself, not a timing requirement providing a specific ordering of messages or indications. Indeed, the claims show that InterDigital knew how to write an explicit timing requirement when it wanted one: both independent claims at issue include the explicit requirement that the message is "transmitted only subsequent to the subscriber unit receiving the indication."

Because the claims do not require indicating the channel only *after* the message is sent, it is irrelevant whether the common specification provides written description support for such a feature. Respondents have therefore failed to prove by clear and convincing evidence that all the asserted claims of the '966 Patent and claim 5 of the '847 Patent are invalid for failure to satisfy the written description requirement.

c. "generated using a same code"

Independent claim 1 of the '966 Patent (along with its dependent claims) and independent claim 5 of the '847 Patent each include the requirement that "each of the successively transmitted signals and the message are generated *using a same code*." (JX-0006 at 10:62-11:19;

JX-0007 at 12:31-63, emphasis added.) Respondents argue that the common specification does not provide any disclosure of how a message is generated and says nothing about a message being generated using "a same code." (RIB at 165-67.) Respondents specifically argue that the claimed "message" is necessarily the message before it is combined with a spreading code. (RIB at 167.) InterDigital argues that the common specification provides support through the disclosure of combining message data with a spreading code to create a message that is then transmitted by the transmitter. (CIB at 50-52; CRB at 27-29.) The Staff agrees with InterDigital. (SIB at 170-72.)

The ALJ agrees with InterDigital that the common specification provides adequate support for the successively transmitted signals and message being generated using a same code. The normal operation of a CDMA system is to multiply a data signal by a spreading code prior to transmission. (JX-0007 at 2:1-16.) Respondents' expert's arguments to the contrary are unpersuasive. (RX 3948 (Kakaes) at Q407.) The common specification describes a spreading code generator that feeds a spreading code into both a data transmitter and a short code and access code transmitter. (*Id.* at 10:10-22.) This spreading code is used to both (1) generate and transmit the short code and access codes at different stages of the power ramp-up procedure and also to (2) generate and transmit data. (*Id.*) The difference between the power ramp-up transmissions and the data transmission is that the power ramp-up transmissions do not modulate the spreading code with any data. (*Id.* at 7:48-49, 9:14-28.)

InterDigital is correct that the claimed message corresponds to the data sequence after it has been processed with the access or spreading code. (CIB at 51.) There are two plausible data messages that could correspond to the claimed "message": the data message before being combined with the spreading code and (2) the data message after being combined with the spread

code. Respondents' expert convincingly argues that the message as it exists prior to being combined with the spreading code is not based on the spreading code. RX 3948C (Kakaes) at Q417. But a message after it has been combined with a spreading code *is still a* message. If the post-combination message is the only one generated using the same code as the short codes, then it is the only logical message referred to by the claim.

Finally, Respondents' expert's argument that "the appropriately encoded and appropriately spread message" does not "suggest to a person of ordinary skill that the message is generated or produced from or using the access code" is misplaced. RX 3948C (Kakaes) at Q417. As noted by InterDigital, there are three transmissions: (1) short codes, (2) a periodic access code, and (3) the rest of call setup and closed loop power control. (CRB at 28; JX-0007 at fig. 7.) Each of these transmissions is based on the same spreading code and this common spreading code is the "same code" used to generate each transmission. (CX-2495C at ¶ 128.)

Respondents have therefore failed to prove by clear and convincing evidence that all the asserted claims of the '966 Patent and claim 5 of the '847 Patent are invalid for failure to satisfy the written description requirement.

d. "successively transmits signals"

Respondents argue that "successively transmits signals" is invalid for lack of disclosure if it were interpreted to cover short codes modulated by data. (RIB at 167-168.) As set forth *supra* in Section IV.C.4 and V.C.1, the ALJ found that the PRACH preamble, code modulated by data, does not meet this limitation. Therefore, Respondents arguments are moot.

VII. FRAND

A. NO FRAND OBLIGATION

As set forth *supra* in Sections IV and V, the ALJ found that the Respondents did not infringe a valid patent. Consequently, the patents are not essential to the 3G or 4G LTE standard and InterDigital's FRAND obligations are not triggered.

B. FRAND ANALYSIS

Nevertheless, should the Commission find that the Respondents do infringe the asserted patents and that the asserted patents are essential to the 3G or 4G LTE standards, the ALJ provides the following analysis.

1. FRAND

The Respondents in this matter have made much about the obligations that they believe InterDigital has under the standard setting organization "European Telecommunication Standards Institute." (ETSI) It is an organization that creates globally applicable standards in the information and communication technology industry. ETSI was formed in 1988 with a goal to create a uniform telecommunications market in Europe. It is officially recognized by the European Union for this purpose. Today, ETSI has more than 700 members, including many of the world's leading companies and R&D organizations, and its standards are practiced globally. (CX-3941C.) Much of the work of ETSI is carried out by technical bodies called committees, which meet throughout the year, during which time the members work together to define ETSI's standards. The committees that are relevant for this matter are the TIA and ITU. TIA stands for Telecommunications Industry Association. It is also a standard setting organization focused on the telecommunication industry. It is accredited by the American National Standards Institute to develop standards for information and communication technology. It currently has more than

500 members. The ITU is the International Telecommunication Union (ITU). TIA was involved in the development of CDMA2000 technology. CDMA2000 is a standard developed by the Third Generation Partnership Project 2, or 3GPP2, which was commissioned by the International Telecommunication Union (ITU). TIA is one of the five standard setting organizations involved in 3GPP2. The CDMA2000 standard was also approved internationally by the ITU.

InterDigital's obligations as a result of its membership in ETSI are created by the terms of the "IPR INFORMATION STATEMENT AND LICENSING DECLARATION" which is part of ETSI Rules of Procedure, 30 November 2011 (CX-2555C):

ETSI Rules of Procedure, 30 November 2011

3 Policy Objectives

3.1 It is ETSI's objective to create STANDARDS and TECHNICAL SPECIFICATIONS that are based on solutions which best meet the technical objectives of the European telecommunications sector, as defined by the General Assembly. In order to further this objective the ETSI IPR POLICY seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable. In achieving this objective, the ETSI IPR POLICY seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.

3.2 IPR holders whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS.

3.3 ETSI shall take reasonable measures to ensure, as far as possible, that its activities which relate to the preparation, adoption and application of STANDARDS and TECHNICAL SPECIFICATIONS, enable STANDARDS and TECHNICAL SPECIFICATIONS to be available to potential users in accordance with the general principles of standardization.

6 Availability of Licences

6.1 When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable

> licences on fair, reasonable and non-discriminatory terms and conditions under such IPR to at least the following extent:
> – MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
> – sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED; – repair, use, or operate EQUIPMENT; and
> – use METHODS.
> The above undertaking may be made subject to the condition that those who seek licenses agree to reciprocate. In the event a MEMBER assigns or transfers ownership of an ESSENTIAL IPR that it disclosed to ETSI, the MEMBER shall exercise reasonable efforts to notify the assignee or transferee of any undertaking it has made to ETSl pursuant to Clause 6 with regard to that ESSENTIAL IPR

(CX-2555C). It is important to note the ETSI Rules of Procedure is not a contract, but it contains rules to guide the parties in their interactions with the organization, other members and third parties. The first goal of the policy is that the IPR owner be "adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS."

It is also important to note that the IPR owner does not agree to license the intellectual property owned under FRAND terms, but only agrees to do so under certain conditions. The agreement itself does not define what "adequate and fairly rewarded" means, nor does it provide any mechanism to determine what those words mean. The agreement in paragraph 12, Law and Regulation states: "Any right granted to, and any obligation imposed on, a MEMBER which derives from French law and which are not already contained in the national or supranational law applicable to that MEMBER is to be understood as being of solely a contractual nature." Under the French law of contract, the agreement is not a contract itself, but rather an agreement in principal. (CX-3934.) While there is French law that allows a contract to be made without including the price in the contract, (RX-0075-0077) the ETSI documents in question create many more factors that must be examined before the FRAND obligation is triggered.

Complainant's obligation in this case is contingent on a condition precedent in the IPR licensing declarations it signed. In Annex 6 Appendix A, the IPR Licensing Declaration Forms state: "This irrevocable undertaking is made subject to the condition that those who seek licenses agree to reciprocate (check box if applicable)." This same condition is available on each license form offered by ETSI:

> **IPR licensing declaration**
>
> The Declarant has notified ETSI that it is the proprietor of the IPRs listed in Annex 2 and has informed ETSI that it believes that the IPRs may be considered, or may come to be considered. ESSENTIAL IPRs generally in relation to 3GPP
>
> Declarant and/or its AFFILIATES hereby declare that, with respect to any of: the IPRs listed in Annex 2 that are ESSENTIAL IPRs and for as long as such 1PRs remain ESSENTIAL IPRs, they are prepared to grant irrevocable licenses under such ESSENTIAL lPRs on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy of sufficient scope to enable a licensee to implement a STANDARD.
>
> The Declarant and/or its AFFILIATES reserve the right to subject any license offer or grant to the condition that those who seek licenses reciprocate on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy.

(CX-2692C CX-2695C, CX-2700C.)

It is noteworthy that while InterDigital has an obligation to declare its IP that *might* become essential, there is nothing in the agreement that requires the company that makes the declaration to confirm that a patent is essential once a standard is adopted. The Declaration is never confirmed, and often patents that are declared as perhaps reading on a standard will, at a later date, be shown not to be Standard Essential Patents. This proved to be the case in *Wireless Devices with 3G Capabilities and Components Thereof*, 337-TA-800. There, ALJ Shaw found that the asserted patents, having been declared by InterDigital, were not SEPs and were not infringed. This has happened with a certain degree of frequency in such matters. [redacted]

[redacted] It is reasonable that this is the case. Establishing standards involves input from hundreds of companies over multiple years. It is not surprising that some declarations prove to be mistaken.

The agreement further provides steps to be taken if a party or third party believes that a member that has signed the agreement is refusing to grant a license on FRAND terms.

ETSI Rules of Procedure, 30 November 2011

8.2 Non-availability of licences after the publication of a STANDARD or a TECHNICAL SPECIFICATION

Where, in respect of a published STANDARD or TECHNICAL SPECIFICATION, ETSI becomes aware that licences are not available from an IPR owner in accordance with Clause 61 above, that STANDARD or TECHNICAL SPECIFICATION shall be referred to the Director-General of ETSI for further consideration in accordance with the following procedure:
i) The Director-General shall request full supporting details from any MEMBER or third party who has complained that licences are not available in accordance with Clause 6.1 above.

ii) The Director-General shall write to the IPR owner concerned for an explanation and request that licences be granted according to Clause 6.1 above. Where the concerned IPR owner is a MEMBER, it shall inform the Director-General of ETSI of its decision and provide a written explanation of its reasons in case of continuing refusal to license that IPR.

iii) Where the IPR owner refuses the Director-General's request or does not answer the letter within three months, the Director-General shall inform the General Assembly and, if available, provide the General Assembly with the IPR owner's explanation for consideration. A vote shall be taken in the General Assembly on an individual weighted basis to immediately refer the STANDARD or TECHNICAL SPECIFICATION to the relevant COMMITTEE to modify it so that the IPR is no longer ESSENTIAL.

iv) Where the vote in the General Assembly does not succeed, then the General Assembly shall, where appropriate, consult the ETSI Counsellors with a view to finding a solution to the problem. In parallel, the General Assembly may request appropriate MEMBERS to use their good offices to find a solution to the problem.

> v) Where (iv) does not lead to a solution, then the General Assembly shall request the European Commission to see what further action may be appropriate, including nonrecognition of the STANDARD or TECHNICAL SPECIFICATION in question.
>
> In carrying out the foregoing procedure due account shall be taken of the interest of the enterprises that have invested in the implementation of the STANDARD or TECHNICAL SPECIFICATION in question.

There is no evidence in the record that any of the respondents availed themselves of the ETSI procedure to resolve situations of non-availability of licenses. While it is true that it was InterDigital that filed the complaint with the ITC, the Respondents could have availed themselves of the procedures in the ETSI agreement, and chose not to. If they had believed that InterDigital has violated the policy of ETSI, they could have ETSI determine if InterDigital was in breach of the agreement and what would be done about it. (CX2555C para. 14.) Respondents did not do this either. It would be helpful to this ALJ, and the ITC, if we knew if InterDigital had breached its duty to ETSI. There is nothing in its Rules of Procedure, or other documents presented that state a party cannot use legal means to pressure the other parties in negotiations. While there is no definition for FRAND in ETSI's rules, *ibid* para. 15, it has been determined elsewhere that a FRAND rate is a range of possible values, depending on a number of economic factors. (RX-3949C Q&A 79-87.)

These Respondents chose take the actions that led to the allegation of infringement rather than follow ETSI policy for obtaining a license. (They only potentially infringe, because while so called "Standard essential patients" must be declared to the organization in a timely fashion (CX-2555C, paragraph 4.1), there is no check by ETSI or any organization that the patents actually do read on the standard.) The Respondents create, outside of the framework of the ETSI agreement a situation where they use the technology that may be covered by the patent, without having licensed it. This puts pressure on the IPR owner to settle, as the owner is not compensated

during a period of exploitation of the IP by the unlicensed parties. The ETSI IPR Policy requires companies that wish to use the IPR covered by the agreements to contact the owner of the IP, and take a license. (CX-3860C.) By skipping this step, the companies that use the IPR in violation of the policy are able to exert a pressure on the negotiations with the IPR holder to try to make the agreement in the lower range of FRAND, or perhaps even lower than a reasonable FRAND rate. They also are able to shift the risk involved in patent negotiation to the patent holder. By not paying for a FRAND license and negotiating in advance of the use of the IPR, they force the patent holder to take legal action. In this action, the patent owner can lose the IPR they believe they have, but if the patent holder wins they gets no more than a FRAND solution, that is, what they should have gotten under the agreement in the first place. There is no risk to the exploiter of the technology in not taking a license before they exhaust their litigation options if the only risk to them for violating the agreement is to pay a FRAND based royalty or fee. This puts the risks of loss entirely on the side of the patent holder, and encourages patent hold-out, which is as unsettling to a fair solution as any patent hold up might be. This has happened with patents from one of the patent families in this case, in 337-TA-800, where the patents that were declared SEP were found not to be essential.

Using the "patented" technology prior to negotiating with InterDigital for a license is a violation of the ETSI Rules of Procedure as well. (CX-2555C; CX-3860C.) While this section of the ETSI rules requires the IPR holder to be prepared to offer a license, it also requires the companies that would use the technology to seek a license as well (The above undertaking may be made subject to the condition that those who seek licenses agree to reciprocate) (CX-2555C.) Within the four corners of the agreement, there appears to be no provision made for companies that simply choose to infringe, and then demand FRAND status when caught. The requirement

to negotiate a license rests not just on the IPR owner, but on those companies that would use the technology prior to engaging in the [potentially] infringing activities.

ETSI IPR POLICY FAQs (CX-3860C):

Question 4:

Our company intends to manufacture GSM mobile stations. Can you tell me what license fee for all essential patents we will have to pay?

Are you handling it, or do we have to contact all the patent holders separately? If we have to contact the companies separately, is there any guideline, e.g. x% of revenue as total license fee, since we are working on a business plan right now?

Answer 4:

It is the responsibility of each STANDARD user to contact directly the patent owner. ETSI is not in a position to provide guidelines for commercial negotiations. In accordance with Article 7.2 of the ETSI IPR Policy (of the ETSI Directives), the ETSI Secretariat provides to its members procedures to allow access to information with respect to essential IPRs which have been brought to the attention of ETSI.

This obligation is fulfilled by the publication of the ETSI Special Report SR 000 314 and the maintenance of the ETSI IPR online database which should be consulted for the most updated information.

Unless otherwise indicated, the owners of the IPRs listed in the above mentioned report and database have undertaken to grant licenses for these IPRs on fair, reasonable and non discriminatory terms as provided by Article 6.1 of the ETSI IPR Policy, Annex 6 of the ETSI Rules of Procedure (of the ETSI Directives). CX-3860C

Question 6:

Does one have to take permission from ETSI for using the patents as listed by ETSI in the Standards?

Answer 6:

It is necessary to obtain permission to use patents declared as essential to ETSI's standards. To this end, each standard user should seek directly a license from a patent holder. In order to obtain the contact details of a patent holder, please make your request to the ETSI Legal Service.

Respondents seemed content to pull the words Fair Reasonable and Non-discriminatory from the Rules to use against InterDigital, but have shown no interest in the rules of procedure for settling conflicts, or for obtaining licenses. This is made clear in examining these ETSI documents for dealing with conflict between IPR holders and potential licensees.

ETSI makes it clear that it will not be part of any commercial negotiations between the parties regarding IPR that has been declared:

> **ETSI Guide on IPRs, 27 November 2008**
> **2.2 Members do NOT have a duty to:**
> conduct IPR searches (see Clause 4.2 of the IPR Policy).
>
> disclose within the Technical Body the commercial terms for licenses for which they have undertaken to grant licenses under FRAND terms and conditions. Any such commercial terms are a matter for discussion between the IPR holder and the potential licensee, outside of ETSI (see section 4.1 of this Guide). CX3912

However, the organization does provide steps for members to follow should they believe the negotiations are failing or the other parties are not complying with the ETSI rules:

> **4.3 Dispute Resolution**
> ETSI Members should attempt to resolve any dispute related to the application of the IPR Policy bilaterally in a friendly manner.
>
> Should this fail, the Members concerned are invited to inform the ETSI GA in case a friendly mediation can be offered by other ETSI Members and/or the ETSI Secretariat.
>
> However, it should be noted that once an IPR (patent) has been granted, in the absence of an agreement between the parties involved, the national courts of law have the sole authority to resolve IPR disputes. CX-3912

The ETSI dispute resolution agreement does not bar any legal proceeding from the parties, but in absence of an agreement instructs the parties to look to the law of the nation where the dispute exists. When looking at this wording, it is clear that the agreement did not intend to, and does not bar any remedy as beyond the reach of the parties. Reading this paragraph in light

of the previous ones makes it clear that the duty required by ETSI is only one to negotiate in good faith. There are duties required under ETSI on those that would take a license as well. In this case, there is no evidence that any of the respondents met any of the obligations that the agreement placed on them. There is no evidence that they reported InterDigital to ETSI for failing to fulfill its duty under the agreement, or inform ETSI so it could contact InterDigital to demand an explanation. (CX-2555C Para 8.1) There is no evidence that the respondents sought a license before they engaged in the alleged infringing behavior. Therefore, under the agreement and under the law of France, there is no contractual obligation that InterDigital has violated with regard to its duties under the ETSI policy.

2. Respondents and complainant have accused each other of failure to negotiate in good faith.

While the respondents followed none of the provisions of the ETSI policy that would give them standing to complain about the behavior of complainant, their arguments that complainant refused to negotiate in good faith is baseless. First, it is reasonable to note that InterDigital is not engaged in manufacturing handsets or any cell phone equipment. Their business model requires them to license their portfolio to generate revenue. If they should refuse to license their portfolio, or license it at a rate that put their licensee(s) at a competitive disadvantage, the threat to their business would be both immediate and real. In as much as a FRAND license is one that allows for a profit for InterDigital, and allows the licensee to compete and thrive in the market, InterDigital must attempt to make certain all of its licenses are granted on FRAND terms. Respondents, however, have no such need to see to the health of InterDigital. If InterDigital failed and was no longer in business, each respondent would be able to continue at least as profitably as before, and perhaps more so. Thus, in looking to the interests of the parties,

holding out meets the interest of the respondents, but if the complainant should "hold up" the respondents, they will suffer losses along with the licensee. The negotiations of the license agreements are complex business dealings, and, in this case, they are being conducted with the backdrop that each day they are not concluded, the Respondents have not had to pay anything for a license they were by ETSI policy to obtain prior to adopting the potentially infringing technology. (CX-3860C.) While the possibility or existence of an exclusion order may benefit InterDigital in negotiating a license, and move the license fee in the upper direction on the FRAND scale, there are hundreds of other economic factors that go into the parties finding a royalty or flat amount both can agree on.

The Respondents in arguing that InterDigital has violated its obligations inadvertently demonstrate the complexities of the negotiations, and in reaching an agreement. While one respondent, ZTE, states they were negotiating with InterDigital, [redacted] demonstrates some of the problems associated with reaching an agreement where there is only a duty of good faith in negotiations. [redacted] that the conditions triggering any obligation under the SSO agreement have not been met, and InterDigital has no FRAND obligation. [redacted] (RX-

3916C) further confirms that there were still numerous issues to work before any obligation to grant FRAND terms was triggered. [redacted] ZTE demonstrates the complexity of the negotiations far better than this ALJ or other government official could:

[redacted]

[redacted] As Fair Reasonable and Non-discriminatory is nowhere defined in the ETSI context, it is uncertain if the parties can charge different rates to different companies, or favor one over the other. There is no guidance as to what can be done in negotiations but that InterDigital must deal with proposed licensees in good faith. There is nothing in any of the evidence presented that they cannot use the ITC and an exclusion order to obtain a FRAND contract with respondents.

[redacted]

[redacted]

So too with Nokia there are multiple issues that are undetermined. [redacted] This is not contemplated by the ETSI agreement, but is not outside the parties' powers to negotiate. [redacted]

[redacted]

[redacted] The evidence also shows that rather than negotiate for a licensee and then using the IPR, the respondents have attempted to put pressure on InterDigital by using the IPR without a license. This puts them outside the ETSI agreement.

The evidence presented does not support the Respondents' position that InterDigital has violated a FRAND obligation by filing this complaint at the ITC. [redacted]

[redacted] The obligation that InterDigital has taken has been fulfilled, and the ETSI agreement anticipates that the parties if necessary will fall back on the national law involved. The Respondents have not taken the steps provided by ETSI to address a failure to license, and so have not done what they ought to if they believe InterDigital has failed to negotiate in good faith. Finally, they have not followed the ETSI process for procuring a license, and have engaged in holdup by making the products that are alleged to infringe before taking a license. Under these facts there is no FRAND duty.

3. Threat of exclusion order does not result in license costs in excess of FRAND Rate

The essence of the arguments made by the FTC and PTO/DOJ against the availability of exclusion orders is that by having an exclusion order hanging over the negotiations, there is a risk of "Patent holdup": that is the owner of the IPR may obtain remuneration beyond the value of the IP, because it is a standard. There is no evidence that is the case here.

In *Wireless Communication Devices, Portable Music and Data Processing Devices, Computers and Components Thereof*, Inv. No. 337-TA-745, the FTC expressed its concern that there is the possibility that the owner of IPR may engage in patent holdup. They expressed no opinion as to the facts of that case, and having reviewed their statement, the ALJ finds it has no bearing on the facts of this case. First, InterDigital is, by the terms of the ETSI policy agreement, entitled to be adequately and fairly rewarded for its IP. (CX-2555C para 3.2.) There is no proof that they have been negotiating in bad faith, and in fact it is the respondents that have taken advantage of the complainant and manufactured, marketed, and profited on goods without taking a license to the IP at issue. While there may be a hypothetical risk of holdup, we have evidence that it is not a threat in this case, or in this industry.

When the FTC announced a workshop and requested comments on Standard Setting Issues, they received a letter from the Telecommunications Industry Association (TIA) on the topic. (CX-3144.) In the letter, the TIA stated they represent a large number of information and communications technology (ICT) companies and organizations in standards, government affairs, and market intelligence. A major function of TIA is the writing and maintenance of voluntary industry standards and specifications, as well as the formulation of technical positions for presentation on behalf of the United States in certain international standards fora. They represent more than 70 standards formulating committees. These committees are made up of over 1,000 volunteer participants, including representatives from manufacturers of telecommunications equipment, service providers and end-users, including the government. *Ibid.*

The TIA stated to the FTC "TIA has never received any complaints regarding such "patent hold-up" and does not agree that "patent holdup" is plaguing the information and telecommunications technology OCT) standard development processes." (CX 3144 at p 4.) The TIA goes on to caution that "[g]overnmental intervention to mandate a generic solution to address presumed "patent hold-up" is likely to generate more unanticipated negative consequences than the perceived problem." The risk when government agencies state a preference for a particular outcome, or for barring particular remedies under law, as a matter of course, is the agency's actions create pressures in the negotiation that are likely to skew the royalty rate to the bottom of the FRAND scale, or lower.

The Department of Justice and United States Patent and Trademark Office (DOJ and USPTO) in a Policy Statement of January 8, 2013 wrote:

> The U.S. Department of Justice, Antitrust Division (DOJ), and the U.S. Patent & Trademark Office (USPTO), an agency of the U.S. Department of Commerce, provide the following perspectives on a topic of significant interest to the patent

> and standards setting communities: whether injunctive relief in judicial proceedings or exclusion orders in investigations under section 337 of the Tariff Act of 19301 are properly issued when a patent holder seeking such a remedy asserts standards-essential patents that are encumbered by a RAND or FRAND licensing commitment.

They define such FRAND encumbered patents in this manner:

> 2 For purposes of this statement, a patent is RAND- or FRAND-encumbered where a patent holder has voluntarily agreed to license the patent on reasonable and non-discriminatory (RAND) terms or fair, reasonable, and non-discriminatory (FRAND) terms while participating in standards-setting activities at a standards-developing organization (SDO). In the United States, SDO members may commit to license all of their patents that are essential to the SDO standard on RAND terms. In other jurisdictions, SDO members may commit to license such patents on FRAND terms. For the purposes of this letter, F/RAND refers to both types of licensing commitments. Commentators frequently use the terms interchangeably to denote the same substantive type of commitment. RX-2661

As a hypothetical this statement is appropriate, but the statement does not take into account the realities of the agreements that are used within the framework created by ETSI. The patents are only encumbered by FRAND if the contingencies set out in the policies are met. In this case, they have not been. The DOJ and USPTO recognize the role patents play, and the importance of protecting IP for the development of industries and economic growth:

> As noted in the Administration's 2010 Joint Strategic Plan on Intellectual Property Enforcement, "[s]trong enforcement of intellectual property rights is an essential part of the Administration's efforts to promote innovation and ensure that the U.S. is a global leader in creative and innovative industries.'' Accordingly, as historically has been the case, exclusion typically is the appropriate remedy when an imported good infringes a valid and enforceable U.S. patent. **(RX-2661.)**

In this case, there is no evidence that the Commission ought to go beyond the statue, and assume that the remedy of an exclusion order should be removed from the case. Neither the agreements imposed by ETSI, nor the law nor public policy require us to offer the Respondents a safe haven, where they are free to avoid their own obligations under the agreements, can manufacture potentially infringing goods without license or consequence, can seek to invalidate the IPR in

question, and yet are free from the risk of a remedy under 19 USC 1337. This one sided administration of the law is against both the Administrative Procedure Act 5 USC §554 and Commission regulation 19 CFR § 200.735-101. The regulation cited here bears quoting in full:

> The purpose of the regulations in this part is to maintain the highest standards of **honesty, integrity, impartiality**, and conduct on the part of all employees of the U.S. International Trade Commission and to maintain public confidence that the business of the Commission is being conducted in accordance with such standards.

For the Commission to adopt a policy that would favor a speculative and unproven position held by other government agencies, without proof that the harm they considered exists or that the risk of such harm was so great that the Commission should violate its statutory duty would damage the Commission's reputation for integrity, and violate its duties under the law. We should and must determine the public interest, and the correct outcome of each matter based on the facts presented, and by applying the law to those facts. To take a pre-set position, without hearing evidence, would violate every concept of justice we are tasked to enforce. Within the facts of this case, the Letters of the DOJ/USPTO and FTC do not assist or enlighten.

C. Affirmative Defenses

Respondents argue that equitable estopped, unclean hands and patent misuse render the asserted patents unenforceable because InterDigital has failed to comply with its FRAND obligations. (RIB at 209-210.) As set forth above, the ALJ has found that Respondents do not infringe a valid patent and that InterDigital's FRAND obligations are not triggered. Consequently, Respondents' arguments relating to these affirmative defenses are moot.

VIII. DOMESTIC INDUSTRY

A. Applicable Law

In patent based proceedings under section 337, a complainant must establish that an industry "relating to the articles protected by the patent . . . exists or is in the process of being established" in the United States. 19 U.S.C. § 1337(a)(2). Under Commission precedent, the domestic industry requirement of Section 337 consists of a "technical prong" and an "economic prong." *Certain Data Storage Systems and Components Thereof*, Inv. No. 337-TA-471, Initial Determination Granting EMC's Motion No. 471-8 Relating to the Domestic Industry Requirement's Economic Prong (unreviewed) at 3 (Public Version, October 25, 2002) The "economic prong" of the domestic industry requirement is satisfied when the economic activities set forth in subsections (A), (B), and/or (C) of subsection 337(a)(3) have taken place or are taking place with respect to the protected articles. *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Commission Op. at 25 (February 17, 2011) ("*Printing and Imaging Devices*"). With respect to the "economic prong," 19 U.S.C. § 1337(a)(2) and (3) provide, in full:

> (2) Subparagraphs (B), (C), (D), and (E) of paragraph (1) apply only if an industry in the United States, relating to the articles protected by the patent, copyright, trademark, mask work, or design concerned, exists or is in the process of being established.
>
> (3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned–
>
> (A) significant investment in plant and equipment;
>
> (B) significant employment of labor or capital; or
>
> (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

Id.

Given that these criteria are in the disjunctive, satisfaction of any one of them will be sufficient to meet the domestic industry requirement. *Certain Integrated Circuit Chipsets and Products Containing Same*, Inv. No. 337-TA-428, Order No 10 at 3, Initial Determination (Unreviewed) (May 4, 2000), citing *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, Commission Op. at 15, USITC Pub. 3003 (Nov. 1996). The Commission has embraced a flexible, market-oriented approach to domestic industry, favoring case-by-case determination "in light of the realities of the marketplace" that encompass "not only the manufacturing operations" but may also include "distribution, research and development and sales." *Certain Dynamic Random Access Memories*, Inv. No. 337-TA-242, USITC Pub. 2034, Commission Op. at 62 (Nov. 1987) ("*DRAMs*").

To meet the technical prong, the complainant must establish that it practices at least one claim of the asserted patent. *Certain Point of Sale Terminals and Components Thereof*, Inv. No. 337-TA-524, Order No. 40 (April 11, 2005). The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement. *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003); *see also Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109 (U.S.I.T.C., May 21, 1990) ("*Certain Doxorubicin*"), *aff'd*, Views of the Commission at 22 (October 31, 1990). "First, the claims of the patent are construed. Second, the complainant's article or process is examined to determine whether it falls within the scope of the claims." *(Id.)* As with infringement, the first step of claim construction is a question of law, whereas the second step of comparing the article to the claims is a factual determination. *Markman,* 52 F.3d at 976. The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *Certain Excimer Laser Systems for Vision Correction Surgery and*

Components Thereof and Methods for Performing Such Surgery, Inv. No. 337-TA-419, Order No. 43 (July 30, 1999). The patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. *See Bayer,* 212 F.3d at 1247.

The Commission recently determined that the technical prong is not limited to subsections (A) and (B), but that any complainant seeking to establish a domestic industry under subsection (C) must also meet the technical prong. *Certain Computers and Computer Peripheral Devices, and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-841, Comm'n Op. (December 20, 2013). Specifically, the Commission stated

> Based on the *InterDigital* and *Microsoft* decisions, a complainant alleging the existence of a domestic industry under 19 U.S.C. §1337(a)(3)(C) must show the existence of articles. As discussed extensively earlier, the substantial investment, once protected articles have been shown, is in the exploitation of the intellectual-property rights, "including engineering, research and development, or licensing.

Id. at 40. The Commission further stated, however, that "[w]e reject the [] production-driven requirement, which is in conflict with the plain language of the statute and its legislative history." *Id.*

Congress enacted 19 U.S.C. § 1337(a)(3) in 1988 as part of the Omnibus Trade and Competitiveness Act. *See Certain Plastic Encapsulated Integrated Circuits,* Inv. No. 337-TA-315, USITC Pub. No. 2574 (Nov. 1992), Initial Determination at 89 (October 16, 1991) (unreviewed in relevant part). The first two sub-paragraphs codified existing Commission practice. *See id.* at 89; *see also Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Commission Op. at 39 (June 29, 2007). Under Commission precedent, these requirements could be met by manufacturing the articles in the United States, *see, e.g.*, *DRAMs*, Commission Op. at 61, or other related activities, *see Schaper Mfg. Co. v. U.S. Int'l Trade Comm'n*, 717 F.2d 1368,

1373 (Fed. Cir. 1983) ("[I]n proper cases, 'industry' may encompass more than the manufacturing of the patented item. . . .").

In addition to subsections (A) and (B), there is also subsection (C). "In amending section 337 in 1988 to include subsection (C), Congress intended to liberalize the domestic industry requirement so that it could be satisfied by all 'holders of U.S. intellectual property rights who are engaged in activities genuinely designed to exploit their intellectual property' in the United States." *Certain Multimedia Display and Navigation Devices and Systems and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-694, Commission Op. at 7 (August 8, 2011) (quoting *Certain Digital Processors and Digital Processing Systems, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-559, Final Initial Determination at 93 (unreviewed in relevant part) (May 11, 2007).

In *Printing and Imaging Devices*, the Commission held that "under the statute, whether the complainant's investment and/or employment activities are 'significant' is not measured in the abstract or absolute sense, but rather is assessed with respect to the nature of the activities and how they are 'significant' to the articles protected by the intellectual property right." *Printing and Imaging Devices*, Commission Op. at 26. The Commission further stated that:

> the magnitude of the investment cannot be assessed without consideration of the nature and importance of the complainant's activities to the patented products in the context of the marketplace or industry in question . . . . whether an investment is 'substantial' or 'significant' is context dependent. (*Id.* at 31.)

Indeed, the Commission has emphasized that "there is no minimum monetary expenditure that a complainant must demonstrate to qualify as a domestic industry under the 'substantial investment' requirement" of section 337(a)(3)(C). *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Commission Op. at 25 (May 16, 2008). Moreover,

the Commission has stated that the complainant need not "define or quantify the industry itself in absolute mathematical terms." *Id.* at 26.

Section 337(a)(3)(C) provides for domestic industry based on "substantial investment" in the enumerated activities, including licensing of a patent. *See Certain Digital Processors and Digital Processing Systems, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-559, Initial Determination at 88 (May 11, 2007) ("*Certain Digital Processors*"). Mere ownership of the patent is insufficient to satisfy the domestic industry requirement. *Certain Digital Processors* at 93. (citing the Senate and House Reports on the Omnibus Trade and Competitiveness Act of 1988, S.Rep. No. 71). However, entities that are actively engaged in licensing their patents in the United States can meet the domestic industry requirement. *Certain Digital Processors* at 93. The complainant must receive revenue, *e.g.* royalty payments, from its licensing activities. *Certain Digital Processors,* at 93-95 ("Commission decisions also reflect the fact that a complainant's receipt of royalties is an important factor in determining whether the domestic industry requirement is satisfied . . . [t]here is no Commission precedent for the establishment of a domestic industry based on licensing in which a complainant did not receive any revenue from alleged licensing activities. In fact, in previous investigations in which a complainant successfully relied solely on licensing activities to satisfy section 337(a)(3), the complainant had licenses yielding royalty payments.") (citations omitted). *See also Certain Video Graphics Display Controllers and Products Containing Same*, Inv. No. 337-TA-412, Initial Determination at 13 (May 14, 1999) (*"Certain Video Graphics Display Controllers"*); *Certain Integrated Circuit Telecommunication Chips and Products Containing Same Including Dialing Apparatus*, Inv. No. 337-TA-337, U.S.I.T.C. Pub. No. 2670, Initial Determination at 98 (March 3, 1993) (*"Certain Integrated Circuit Telecommunication Chips"*); *Certain Zero-*

Mercury-Added Alkaline Batteries, Parts Thereof and Products Containing Same, Inv. No. 337-TA-493, Initial Determination at 142 (June 2, 2004) (*"Certain Zero-Mercury-Added Alkaline Batteries"*); *Certain Semiconductor Chips*, Order No. 13 at 6 (January 24, 2001); *Certain Digital Satellite System DSS Receivers and Components Thereof*, Inv. No. 337-TA-392, Initial and Recommended Determinations at 11 (December 4, 1997) (*"Certain Digital Satellite System DSS Receivers"*).

In *Certain Multimedia Display & Navigation Devices & Systems, Components Thereof, & Products Containing Same*, Inv. No. 337-TA-694, Comm'n Op. (Aug. 8, 2011) (*"Navigation Devices*"), the Commission stated that a complainant seeking to rely on licensing activities must satisfy three requirements: (1) the investment must be "an investment in the exploitation of the asserted patent;" (2) the investment must relate to licensing; and (3) the investment "must be domestic, *i.e.*, it must occur in the United States." *Id.* at 7-8. The Commission stated that "[o]nly after determining the extent to which the complainant's investments fall within these statutory parameters can we evaluate whether complainant's qualifying investments are 'substantial,' as required by the statute." *Id.* at 8.

Under the first of the three requirements, the complainant must show a nexus between the licensing activity and the asserted patent. *Id.* at 9. When the asserted patent is part of a patent portfolio, and the licensing activities relate to the portfolio as a whole, the Commission requires that the facts be examined to determine the strength of the nexus between the asserted patent and the licensing activities. *Id.* The Commission provided a non-exhaustive list of factors to consider, such as (1) whether the licensee's efforts relate to "an article protected by" the asserted patent under Section 337 (a)(2)-(3); (2) the number of patents in the portfolio; (3) the relative value contributed by the asserted patent to the portfolio; (4) the prominence of the asserted patent

in licensing discussions, negotiations, and any resulting licensing agreement; and (5) the scope of technology covered by the portfolio compared to the scope of the asserted patent. *Id.* at 9-10. The Commission explained that the asserted patent may be shown to be particularly important or valuable within the portfolio where there is evidence that: (1) it was discussed during licensing negotiations; (2) it has been successfully litigated before by the complainant; (3) it is related to a technology industry standard; (4) it is a base patent or pioneering patent; (5) it is infringed or practiced in the United States; or (6) the market recognizes the patent's value in some other way. *Id.* at 10-11.

Once a complainant's investment in licensing the asserted patent in the United States has been assessed in the manner described above, the next inquiry is whether the investment is "substantial." 19 U.S.C. § 1337(a)(3)(C). The Commission takes "a flexible approach whereby a complainant whose showing on one or more of the three section 337(a)(3)(C) requirements is relatively weak may nevertheless establish that its investment is 'substantial' by demonstrating that its activities and/or expenses are of a large magnitude." *Multimedia Display and Navigation Devices*, Comm'n Op. at 15. The Commission has indicated that whether an investment is "substantial" may depend on:

> (1) the nature of the industry and the resources of the complainant;
>
> (2) the existence of other types of "exploitation" activities;
>
> (3) the existence of license-related "ancillary" activities;
>
> (4) whether complainant's licensing activities are continuing; and
>
> (5) whether complainant's licensing activities are the type of activities that are referenced favorably in the legislative history of section 337(a)(3)(C).

Id. at 15-16. The complainant's return on its licensing investment (or lack thereof) may also be circumstantial evidence of substantiality. *Id.* at 16. In addition, litigation expenses may

be evidence of the complainant's investment, but "should not automatically be considered a 'substantial investment in . . . licensing,' even if the lawsuit happens to culminate in a license." *John Mezzalingua Assocs., Inc. v. Int'l Trade Comm'n*, 660 F.3d 1322 (Fed. Cir. 2011).

B. Technical Prong

1. '151 Patent

InterDigital argues that the DSM-LTE Platform practices claim 1 of the '151 Patent. (CIB at 101.) There is no dispute that the DSM-LTE platform source code implements substantially the same LTE functionality accused of infringing the '151 patent. (CIB at 101; RIB at 93-94; SIB at 65-66.)

Respondents argue that the DSM-LTE Platform fails to practice claim 1 of the '151 Patent for the same reasons that accused products fail to practice the claim. (RIB at 93.) Staff agrees. (SIB at 65.)

As set forth *supra* in Section V.B., the ALJ found that the accused products do not practice claim 1 of the '151 Patent. For the same reasons set forth therein, the ALJ finds that the DSM-LTE Platform also fails to practice claim 1. Therefore, the ALJ finds that InterDigital has failed to show by a preponderance of the evidence that the DSM-LTE practices claim 1 of the '151 Patent and has failed to meet the technical prong of the domestic industry requirement.

2. '847 and ''966 Patent

InterDigital argues that the 6071 and 6102 articles practice the '966 and '847 Patents. (CIB at 47.) There is no dispute that the 6071 and 6102 articles implement the relevant functionality in materially the same way as the WCDMA Devices and the 3GPP WCDMA standard and that the 6071 and 6102 articles practice the asserted claims for the same reasons that the WCDMA Devices infringe those claims. (CIB at 47; RIB at 136; SIB at 164-165.)

Respondents argue that the 6071 and 6102 articles Platform fails to practice the '966 and the '847 Patent for the same reasons that accused products fail to practice the claim. (RIB at 136.) Staff agrees. (SIB at 164-165.)

As set forth *supra* in Section V.C., the ALJ found that the accused products do not practice the asserted claims of the '966 and the '847 Patents. For the same reasons set forth therein, the ALJ finds that the 6071 and 6102 articles also fail to practice the '966 and the '847 Patents. Therefore, the ALJ finds that InterDigital has failed to show by a preponderance of the evidence that the 6071 and 6102 articles practice the '966 and the '847 Patents and has failed to meet the technical prong of the domestic industry requirement.

C. Economic Prong

As set forth in the previous section, the ALJ has found that InterDigital has failed to meet the technical prong and, consequently, has failed to meet the domestic industry requirement. However, to the extent that the Commission determines that InterDigital has satisfied the technical prong, the ALJ finds that InterDigital has met the economic prong of the domestic industry requirement.

InterDigital argues that it satisfies the economic prong of the domestic industry requirement under Section (C) based on its substantial investments in licensing and research and development. (CIB at 132-178.) Staff agrees. (SIB at 195-207.)

Respondents argue that InterDigital fails to satisfy the economic prong because (1) InterDigital has failed to show that any article is protected by the patent; (2) InterDigital has failed to show substantial investments in licensing and failed to show a nexus; and (3) InterDigital has failed to show a substantial investment in research and development and failed to show a nexus. (RIB at 168-183.)

For the reasons set forth below, the ALJ finds that InterDigital has satisfied the economic prong of the domestic industry requirement through its substantial investments in licensing and domestic industry. The ALJ further notes that there are no significant changes from InterDigital's licensing program that would lead to a different conclusion from those reached by the Commission in Inv. Nos. 337-TA-601, 337-TA-613 and 337-TA-800 and the Federal Circuit's finding that InterDigital has met the economic prong requirement for the domestic industry requirement. *See Certain 3G Wideband Code Div. Multiple Access (WCDMA) Handsets and Components Thereof*, Inv. No. 337-TA-601, Order No. 20, Initial Determination (June 24, 2008) (unreviewed) ("*3G Wideband Handsets*"); *Certain 3G Mobile Handsets and Components Thereof*, Inv. No. 337-TA-613, Order No. 42, Initial Determination (March 10, 2009)(unreviewed) ("*3G Mobile Handsets*"); *Certain Wireless Devices,* No. 337-TA-800, Initial Determination at 382-416 (June 28, 2013) (While that determination was reviewed by the Commission, itultimately took no position on the issue of domestic industry.) (*See Certain Wireless Devices with 3G Capabilities and Components Thereof*, Inv. No. 337-TA-800, Commission Notice at 3 (February 12, 2014); *InterDigital Commc'ns, LLC v. Int'l Trade Comm'n*, 707 F.3d 1295, 1298-99 (Fed. Cir. 2013).

1. Licensing

InterDigital argues that it has established a licensing based domestic industry. Staff agrees. Respondent argue, however, that InterDigital has (1) failed to establish a nexus between domestic investments and the Asserted Patents because (a) it relies on a flawed numerical analysis of licensing negotiations and (b) all other factors considered by the Commission weigh against a finding of sufficient nexus; (2) has failed to show that its claimed investment and activities occur within the United States; and (3) failed to show that its investments are

substantial because it failed to properly apportion investments, and instead: (a) aggregates investments in multiple patents, (b) includes all costs for patent families rather than individual patents, and (c) improperly attributes portfolio-wide costs that undisputedly are not specific to any one of the Asserted Patents. (RIB at 171-175.) Respondents further argue that any investments are not substantial and argues that InterDigital's methodologies in calculating the investments are unverifiable and inherently unreliable. (RIB at 175-177.)

a) InterDigital's Licensing Activities

The evidence shows that InterDigital licenses its patents on a portfolio-wide basis. (CX-1016C at ¶ 59; CX-1015C at ¶ 132; CX-1003C at ¶ 139.) InterDigital does not track, in the ordinary course of business, expenditures related to licensing specific patents or patent families. (CX-1016C at ¶ 22, 26.) Consequently, Mr. Brezski testified that to determine InterDigital's expenditures related to licensing its 3G and/or 4G patents (which necessarily include licensing the Asserted Patents) he first calculated the percentage of time that the relevant InterDigital employees devoted to InterDigital's 3G licensing efforts. (*Id.* at ¶ 23-25; *see also Integrated Circuits* at 172 n.2; *Liquid Crystal Display Devices* at 120.) As a first step in these calculations, he contacted more than [redacted] InterDigital personnel involved in licensing and asked them to estimate what percentage of their time they spent on 3G licensing from 2008 through the first half of 2009. (*Id.* at ¶ 26; 28; CX-0326C.) Mr. Brezski then consolidated those estimations into one spreadsheet and verified the reasonableness of those estimates with Mr. Lawrence Shay, who heads InterDigital's licensing department. (CX-1016C at ¶ 30-32; CX-1057C.)

Mr. Brezski next interviewed InterDigital's personnel involved in licensing from the second half of 2009 through 2011. (CX-1016C at ¶ 33-34.) Mr. Brezski asked each employee for: (i) their job title and description, (ii) their department or group, (iii) the name of their

supervisor or manager, (iv) the names of employees they supervise, (v) their telephone extension, (vi) when they started at their current position, (vii) what prior positions (if any) they held, (viii) the identity of each major area in which they work, (ix) a short description of their 3G licensing responsibilities, (x) what records they maintained regarding their 3G licensing activities, and (xi) an estimated percentage of time spent on 3G licensing activities from July 1, 2009 through December 31, 2010. (*Id.* at ¶ 38.) Mr. Brezski created a spreadsheet to consolidate the responses to those interviews and later updated it to include employee estimations for time spent on 3G licensing from 2010 through 2011. (CX-1016C at ¶ 35, 38; *see also* CX-2193C.)

For an estimate of time spent on 3G licensing during the time period from the second half of 2009 through 2011 which was performed in conjunction with a domestic industry analysis for Investigation No. 337-TA-800, Mr. Brezski interviewed [redacted] InterDigital employees. (CX-1016C at ¶ 37.) Each employee was asked to estimate their time spent on 3G licensing activities, which included "activities designed to exploit InterDigital's 3G patents through licensing." (*Id.* at ¶ 39.) For example, InterDigital employees included in their estimates activities that involved direct licensing negotiations, preparing claim charts to send to potential licensees for their consideration during the negotiation process, and compliance with license agreements. (*Id.*) Activities expressly *excluded* from any estimate were activities relating to litigation, patent prosecution, or due diligence related to patent acquisition. (*Id.* at ¶ 40.) In a few instances where an employee was on extended leave or had left the company, Mr. Brezski interviewed the employee's direct manager. (*Id.* at ¶ 42.) As with the estimates for 2008 through the first half of 2009, Mr. Brezski verified the reasonableness and accuracy of these later estimates with the head of the licensing department, Mr. Shay. (*Id.* at ¶ 43.)

Mr. Brezski testified that his previous thorough effort to quantify InterDigital's investments in 3G licensing – a method credited by ALJ Shaw in the 800 Investigation – aided his effort to quantify InterDigital's investments in 3G and/or 4G licensing activities in this Investigation. (*See Certain Wireless Devices*, Inv. No. 337-TA-800, Initial Determination at 386-392 (June 28, 2013); CX-1016C at ¶ 44.) In particular, Mr. Brezski used the comprehensive information collected for Inv. No. 337-TA-800 to create a new spreadsheet, and imported the information regarding 3G licensing activities from 2009 to 2011 that he previously collected. (*Id.* at ¶ 46, *see also* CX-0335C.)

Mr. Brezski testified that he then interviewed InterDigital personnel that may have been involved in 3G and/or 4G licensing activities at any point from 2009 through 2012. (*Id.*) As part of his effort to quantify InterDigital's investments in 3G and/or 4G licensing activities for this Investigation, Mr. Brezski collected data from all InterDigital personnel determined to have a substantive role in supporting the licensing program. (CX-1016C at ¶ 48.) For personnel that were still with InterDigital, Mr. Brezski interviewed them personally. (*Id.* at ¶ 49.) For those personnel that were no longer with InterDigital, Mr. Brezski relied on the information they provided from previous interviews in connection with Inv. No. 337-TA-800, or he asked their direct supervisor to estimate the time that employee may have spent on 3G and/or 4G licensing. (*Id.*) For those employees that were previously interviewed as part of the effort for Inv. No. 337-TA-800, Mr. Brezski asked them to review their previous estimates and to confirm whether they were correct or whether any changes should be made. (*Id.* at ¶ 50.) Each employee confirmed that none of their previous estimates regarding time spent on 3G licensing needed to be revised. (*Id.* at ¶ 51.)

Mr. Brezski continued the interviews by asking each employee to estimate how much of that time was spent on 3G licensing activities in conjunction with 4G licensing activities. (*Id.* at ¶ 52.) Mr. Brezski also asked them to estimate how much of their time from 2009-2011 was spent *solely* on 4G licensing activities. (*Id.*) All of those answers were documented contemporaneously with the interview process. (*See* CX-0335C.) Further, each employee interviewed confirmed that, due to the realities of the marketplace and the nature of the licensing business, no employee could estimate how much time was spent on licensing activities for each specific asserted patent. (*See* CX-1016C at ¶ 54, Tr. (Brezski) at 359:11-360:21.) As with the previous interviews, each employee was expressly instructed to exclude from their estimates any time spent on activities related to patent litigation, patent prosecution or patent acquisition. (*Id.* at ¶ 56.)

In total, the estimates of percentages of their total time each InterDigital employee spent on 3G and/or 4G licensing from 2009-2012 is consolidated in full table form in Mr. Brezski's direct testimony. (*Id.* at ¶ 57; *see also* CX-1057C; CX-2193C; and CX-0335C.) To verify the accuracy of the compiled estimates, Mr. Brezski instructed each interviewee to review the estimates and sign the bottom of the page where they were recorded to confirm those estimates were accurate. (CX-1016C at ¶ 58; CX-0335C.) In addition, each estimate was separately verified by Mr. Shay. (CX-1016C at ¶ 58.)

Based on the data above, Mr. Brezski calculated InterDigital's compensation-related investments in 3G and/or 4G licensing based on those estimates. (CX-1016C at ¶ 61.) To do so, Mr. Brezski collected the data included in each employee's W-2 tax forms from 2008 through 2012 to determine the compensation paid to them during those time periods. (*Id.* at ¶ 62.) Specifically, those W-2 tax forms identify the total "Medicare wages and tips" compensation

paid by InterDigital to each respective employee that year. (*Id.* at ¶ 63.) Mr. Brezski collected that data by pulling a report directly from ADP, InterDigital's third party payroll provider. (*Id.* at ¶ 64.) Mr. Brezski recorded that payroll data into a spreadsheet. (*Id.* at ¶ 65-66; CX-0376C.)

Because not every employee devoted 100% of their time to 3G and/or 4G licensing activities, Mr. Brezski pro-rated each employee's total compensation by the percentage of time they spent on 3G and/or 4G licensing for each calendar year. (CX-1016C at ¶ 67.) Mr. Brezski was able to estimate InterDigital's compensation-related investments in 3G and/or 4G licensing based on the percentage of time that the relevant employees devoted to InterDigital's licensing efforts. InterDigital's compensation-related investments in 3G and/or 4G licensing, totaling more than [redacted], is set forth in tabular form in Mr. Brezski's direct testimony. (*Id.* at ¶ 69.) Mr. Brezski's analysis reflects the realities of InterDigital's actual business, is consistent with controlling Commission precedent and was previously credited by ALJ Shaw in Inv. No. 800. (*Integrated Circuits* at 172 n.2; *Certain Wireless Devices*, Inv. No. 337-TA-800, Initial Determination at 386-392 (June 28, 2013).)

InterDigital conservatively spent approximately [redacted] on compensation-related investments in its 3G and/or 4G licensing activities from 2009 through 2012. (*Id.* at ¶ 69-70.) This approximation is conservative because InterDigital also made additional investments in payroll taxes, facilities expenses and other benefits not captured by the approximately [redacted] figure representing InterDigital's investments in 3G and/or 4G licensing. (*Id.* at ¶ 71-72.)

In light of Inv. No. 337-TA-800, the ALJ finds InterDigital's methodology set forth above to be acceptable. Moreover, the ALJ finds that regardless of Inv. No. 337-TA-800, InterDigital's methodology is sufficient to try to allocate expenses to the asserted patents. As

noted by the ALJ in previous investigations and by InterDigital in this investigation, the manner in which expenses must be allocated and required by the Commission in proving the economic prong is not kept in the ordinary course of business. Consequently, to the extent that complainants must calculate and create methodologies to create such expenses in order to satisfy the Commission's economic prong, the ALJ finds that those must be addressed on a case by case basis. And, in this instance, the ALJ finds that InterDigital's methodology is acceptable in attempting to allocate expenses.

b) Investments in the Asserted Patents

The evidence shows InterDigital's conservative investment of approximately [redacted] "represents InterDigital's compensation-related expenses which can be directly tied to 3G and/or 4G licensing activities." (CX-1015C at ¶ 64.) From that base, InterDigital's expert Dr. Putnam determined InterDigital's investments in the exploitation of the asserted patents. (*Id.* at ¶ 65-66.)

In particular, Dr. Putnam examined more than [redacted] documents produced by InterDigital representing its licensing negotiations with more than [redacted] different entities. (*Id.* at ¶ 70; *see also* CX-0987C; CX-0960C; CX-0969C.) Dr. Putnam and his team generated a database that recorded every one of the documents analyzed regarding InterDigital's licensing negotiations. (Putnam Tr. at 1510:16-1511:2; *see also* CX-0969C.) In particular, Dr. Putnam and his team recorded in this database, for every one of the more than [redacted] documents examined, "the nature of the document, who the negotiating party was, the date of the document and whether or not it contained patents and, if so, what the patent numbers were." (Putnam Tr. at 1510:16-1511:2; *see also* CX-0969C.) Dr. Putnam testified that about 66% of those documents did not reference any patents at all, but generally discussed economic terms such as the portfolio

royalty rate, the negotiation of a non-disclosure agreement, or other activities that were not patent specific. (CX-1015C at ¶ 72.) In order to determine what share of InterDigital's licensing negotiations were devoted to the asserted patents or a related family member, Dr. Putnam conservatively estimated that 50% of InterDigital's documents contained no reference to any patent at all. (*Id.*)[7]

For the other InterDigital negotiation documents in which at least one patent was mentioned, Dr. Putnam tabulated whether those negotiations included reference to any of the asserted patents or a related family member. (*Id.* at ¶ 109.) As discussed in greater detail below, Dr. Putnam recognized that counting whether a ***related family member*** to one of the asserted patents was discussed during negotiations makes both legal and economic sense. (*Id.* at ¶ 124-136.) In particular, as Dr. Putnam testified:

> Several of the patents asserted in this Investigation represent later members of a patent family, which InterDigital invested in to capture additional value not fully realized in the initial application. By evaluating InterDigital's licensing practice solely as it relates to the asserted patents and not to their related family members, one risks improperly ignoring InterDigital's investments in all the members of the same family which, in one way or another, all built on the initial application, in which InterDigital also invested.

(*Id.* at ¶ 124.) Identifying mentions of related family members makes further economic sense in view of InterDigital's licensing practices. (*Id.* at ¶ 129.) InterDigital does not license its patents on a patent-by-patent basis, but rather on a portfolio basis that includes patent families as a whole. (*Id.* at ¶ 132.) This licensing practice is most desirable to potential licensees who want

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[7] Dr. Putnam testified that an estimation of 50%, rather than 66%, is more conservative because "[s]ince the relationship between the number of licensing documents and actual licensing expenditures is inexact, I have reduced the share of expenditures that are considered 'non-specific' and that are included in the calculation. The smaller this latter set of expenditures, the smaller the total approximation of domestic industry investment. This reduction [of 50%] thus produces a conservative estimate of InterDigital's total investment in licensing the asserted patents." (CX-1015C at ¶ 73.)

global peace regarding infringement and is consistent with Respondents' own licensing practices. (*Id.* at ¶ 128, 132.) By featuring a related family member in a negotiation, InterDigital is necessarily featuring all members of the same family (including the asserted patents). (*Id.* at ¶ 128-129; Tr. (Putnam) at 1494:15-20.) This is also consistent with ETSI's IPR Policy, under which disclosure of one member of a patent family satisfies disclosure requirements for all existing and future members of a patent family. (*Id.* at ¶ 133-136.) Thus, an investment in featuring a related family member is ***necessarily*** an investment in the exploitation of the asserted patent to which it is related. (*Id.* at ¶ 129.) Indeed, ALJ Shaw previously determined that in view of the economic realities of the marketplace and InterDigital's licensing practices, the asserted patents and their related family members are the appropriate unit of observation for this domestic industry analysis. *Certain Wireless Devices*, Inv. No. 337-TA-800, Initial Determination at 397-400 (June 28, 2013).

After analyzing the more than [redacted] licensing negotiation documents, Dr. Putnam testified that for those documents that mentioned at least one patent at all, the median rate at which the three asserted patents or their respective related family members were mentioned was about 9%. (CX-1015C at ¶ 82.) With this information, Dr. Putnam calculated what share of InterDigital's approximately [redacted] in compensation-related investment in 3G and/or 4G licensing was attributable to the asserted patents by allocating the ratio of fixed and variable costs that were attributable to the asserted patents. (CX-1015C at ¶ 70-82.)

Dr. Putnam concluded that approximately half of InterDigital's 3G and/or 4G licensing investments, or approximately [redacted], are *fixed* costs, *i.e.*, the fixed costs of getting into the business of negotiating any patent in InterDigital's 3G and/or 4G portfolio. (CX-1015C at ¶ 80.) The remaining half of InterDigital's 3G and/or 4G licensing investments, or approximately [redacted]

[redacted] are *variable* costs, or costs that vary based on which patents are driving certain licensing negotiations. Dr. Putnam calculated that 9% [of approximately [redacted] of this half should be allocated to the three asserted patents, based on their frequency of mention. (CX-1015C at ¶ 82.) Thus, InterDigital's approximately [redacted] in fixed licensing costs – the base costs necessary to negotiate any license – plus approximately [redacted] in variable costs relating to "the frequency with which the asserted or related patents were mentioned in negotiations" results in a calculation of approximately [redacted] in InterDigital's investments in licensing the Asserted Patents. (*Id.* at ¶ 82.)[8] To the extent the Commission seeks to determine InterDigital's licensing domestic industry according to the patents asserted on a Respondent-by-Respondent basis, Dr. Putnam testified that he applied the same methodology (previously credited by ALJ Shaw in Inv. No. 800) to determine InterDigital's investments in the patent asserted against Nokia to be approximately [redacted]. (*Id.* at ¶ 82-83.)

c) Nexus between the licensing activities and the asserted patents

InterDigital argues that it has the requisite nexus. (CIB at 147-160.) Staff agrees. (SIB at 203-207.) Respondents argue that InterDigital has failed to show the nexus because its methodology is flawed and the nexus factors weigh against a finding of sufficient nexus. (RIB at 171-172.)

As an initial note, the ALJ finds that InterDigital's approach in using patent families is acceptable despite Respondents arguments to the contrary. The Commission has accepted such

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[8] Dr. Putnam alternatively opined that, should the Commission determine that the full [redacted] of InterDigital's compensation-related expenses must be pro-rated for the asserted patents – ignoring the basic economic principle of fixed costs – then InterDigital's domestic industry investments in the asserted patents would be approximately [redacted]. (*Id.* at ¶ 82.) But as Dr. Putnam explains, such a requirement would not make economic sense because it fails to account for the fixed input, which are the resources devoted to negotiating licenses that are not specific to any patent. (*See id.* at ¶ 79-80.)

an approach in previous investigation involving InterDigital, *i.e.*, 337-TA-601, 337-TA-613 and 337-TA-800. The ALJ finds no reason to stray from Commission practice and Respondents have failed to provide any compelling reason to do so.

As set forth below, the ALJ finds that InterDigital has established that a nexus between its licensing activities and the asserted patents.

(1) The Number Of Patents In InterDigital's Portfolio

The evidence shows that, as of December 2012, InterDigital's patent portfolio comprised about 1,700 U.S. patents among a total portfolio of approximately 20,000 U.S. and foreign-issued patents and applications. (CX-1015C at ¶ 96; *see also* CX-0286.) Only three of InterDigital's portfolio of patents are asserted in this investigation.

(2) The Relative Value Contributed By The Asserted Patents To The Portfolio

The Commission has explained that the asserted patents may be shown to be particularly important or valuable within the portfolio where there is evidence that: (1) they were discussed during licensing negotiations, (2) they have been successfully litigated before by the complainant, (3) they are related to a technology industry standard, (4) they are base patents or pioneering patents, (5) they are infringed or practiced in the United States, or (6) the market recognizes the patents' value in some other way. *Certain Integrated Circuits, Chipsets, and Products Containing Same Including Televisions*, Inv. No. 337-TA-786, Comm'n Op. at 164 (Sept. 19, 2012) (citing *Navigation Devices* at 10-11).

(a) Whether the Asserted Patents Were Prominently Discussed During the Licensing Negotiation Process

To determine whether the asserted patents or related family members were discussed in the licensing negotiation process, Dr. Putnam sought documents demonstrating InterDigital's

licensing communications. (CX-1015C at ¶ 108.) He received more than [redacted] documents comprising "claim charts, financial spreadsheets, email communications, and related items that address the issues raised by one party or the other in the course of reaching, or attempting to reach, agreement as to a license." *Id.* In doing so, Dr. Putnam testified that his "overall objective was to determine conservatively which patents appeared most frequently and prominently in negotiations with actual and prospective licensees."[9] (*Id.* at ¶ 109.)

Dr. Putnam then sought to determine which patents were appropriately considered "related family members" to the asserted patents. (*Id.* at ¶ 138.) To do so, Dr. Putnam relied on the publicly available, independent International Patent Document Center ("INPADOC") database currently maintained by the European Patent Office. *Id.* at ¶ 138-140. Using that information, and using a third-party subscription database that collects patent data from the EPO, Dr. Putnam thereafter identified the priority documents associated with the three asserted patents and then found all patents that also contain those priority documents. (*Id.* at ¶ 138.) To address criticisms raised by Respondents in Inv. No. 337-TA-800, Dr. Putnam then limited the resulting set of related patents to those sharing the same earliest priority documents as the asserted patents. (*Id.* at 138-140.)

With his protocols in place, Dr. Putnam then analyzed InterDigital's more than [redacted]

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9 Dr. Putnam cautioned:

> One difficulty that arises is defining the appropriate unit of observation for this analysis. On the one hand, it may be useful to measure the *quantity of times* each particular patent is discussed in a given negotiation. On the other hand, that approach gives rise to further difficulties, such as avoiding double-counting (*e.g.* if the same email chain referencing a particular patent is produced multiple times). For this reason, my analysis evaluates *whether or not* a particular patent was presented in a given negotiation. This allowed me to generate a data set containing the identity and count of unique patents that were identified in InterDigital negotiations. To make this exercise tractable and to avoid another potential area of double-counting, I limit the analysis to U.S. patents.

(CX-1015C at ¶ 109 (emphasis original); *see also* Tr. (Putnam) at 1514:9-24.)

licensing negotiation documents. Dr. Putnam's analysis of these extensive materials demonstrates that the asserted patents or related family members were "discussed during the licensing negotiation process," as prescribed by the Commission in *Navigation Devices*. (*See Navigation Devices* at 10; CX-1015C at ¶ 111; *see also* CX-0960C; CX-0969C.)

Respondents' expert contends that Dr. Putnam's list of related patents is allegedly "too broad" because "Dr. Putnam does not examine the 'related' patents from a technical perspective or explain why they are appropriate proxies for the Asserted Patents." (RX-4592C (Vander Veen) at ¶ 51.) Setting aside that Dr. Putnam testified *at length about* the practical and economic reasons that related patents are appropriate proxies for the Asserted Patents and setting aside that Dr. Putnam applies a definition of "family" even narrower than does ETSI, requiring an economic expert to analyze those patents "from a technical perspective" makes no sense. (CX-1015C at ¶ 122-137; 140.) Indeed, none of Respondents' experts makes any effort to demonstrate that the patents Dr. Putnam concludes are related to the Asserted Patents are from disparate technologies. Instead, Dr. Vander Veen claims – with no technical experience or evidentiary support – that "Dr. Putnam is sweeping in patents that deal with entirely different technologies." (RX-4592C at ¶ 51.) Dr. Vander Veen consciously ignores the fact that because these patents all share a common priority document, they all share part or all of the same common specification, and thus must necessarily share some technological relationship. Tellingly, Respondents have not identified ***a single patent*** they contend should not be considered related to any of the Asserted Patents.

The evidence shows that the asserted patents themselves were discussed "prominently." (CX-1015C at ¶ 148-149, 151-152.) For example, Dr. Putnam identified each time an asserted patent or related family member was identified in a claim chart during a negotiation. (*Id.* at ¶

115.) Claim charts are a demonstration of "prominence" of patents in licensing negotiations. (*Id.* at ¶ 116.) The Commission agrees. (*See Liquid Crystal Display Devices*, Comm'n Op. at 119 ("The claim charts signify that particular patents were important to Thomson for purposes of licensing negotiations. They also establish that Thomson believed the claims of those patents actually cover commercially-available products.").)

Specifically, the record evidence proves that the '847 Patents was featured prominently during licensing negotiations. For example, the ''847 Patent is frequently included in claim charts or lists of exemplary patents provided to many prospective licenses as demonstrated [redacted]

The evidence also proves that the ''966 Patent was featured prominently during licensing negotiations. For example, the ''966 Patent is frequently included in claim charts or lists of exemplary patents provided to prospective licenses, as demonstrated [redacted]

[redacted]

The record evidence also proves that the '151 Patent was featured prominently during licensing negotiations. [redacted]

The '151 Patent is also frequently included in claim charts or lists of exemplary patents provided to many prospective licensees, as demonstrated [redacted]

[redacted]

As set forth above, the evidence shows that the asserted patents were discussed during licensing negotiations, and that they were discussed "prominently." Therefore, the ALJ finds this factor weighs in favor of finding that the asserted patents are important to InterDigital's patent portfolio.

(b) Whether the Asserted Patents Have Been Successfully Litigated Before by the Complainant

InterDigital has been recognized as satisfying the domestic industry based on its substantial investments in the exploitation of patents through licensing in Inv. Nos. 337-TA-601, 337-TA-613 and 337-TA-800.

The 601 investigation involved two patents asserted in the present Investigation. (CX-1015C at ¶ 153.) On November 24, 2008, InterDigital and Samsung (a respondent in the 601 investigation and a former respondent the current Investigation) agreed to a settlement [redacted] covering, among other things, 3G devices. (*Id.*) [redacted] (*Id.*) That [redacted] license to InterDigital's patents was signed ***the same day*** Chief ALJ Luckern's Initial Determination was due in the 601 Investigation, suggesting it was executed by Samsung at least in part in view of concern over an impending determination of infringement regarding those asserted patents. (*Id.*)

The 601 investigation was a successful litigation by InterDigital of patents asserted in this investigation. *Id.* at ¶153-154.

The 613 investigation involved three patents asserted in the present Investigation. (*Id.*) The Commission found that these patents were not infringed but also "not invalid." (*Id.*) On August 1, 2012, the Federal Circuit vacated the non-infringement determination and remanded for reconsideration of Nokia's infringement of those patents, applying InterDigital's claim construction. (*Id.*) Thus, while the 613 investigation is still ongoing, recent judicial events generally favoring InterDigital's positions strengthens the market recognition that InterDigital's related patents were previously successfully litigated in the 613 investigation. (*Id.*) More recent events, including the February 12, 2014 Commission Opinion in the 613 investigation resolving a number of claim construction and infringement issues in InterDigital's favor, must further strengthened the market recognition of InterDigital's portfolio and the asserted patents.

Given that two of the Asserted Patents were asserted in the 601 and three of the Asserted Patents were asserted in the 613 Investigation, the ALJ finds that this particular factor weighs in favor of finding that the asserted patents are important to InterDigital's patent portfolio..

(c) Whether The Patents Relate To A Technology Industry Standard

As set forth *supra*, each of the asserted patents "relates to a technology industry standard." *Navigation Devices,* Inv. No. 337-TA-694, Comm'n Op. at 10. In particular, they relate to the WCDMA and LTE standards promulgated by ETSI. (CX-1015C at ¶ 155.)

The ALJ finds that this factor weighs in favor of a determination that the asserted patents are important to InterDigital's patent portfolio.

(d) Whether The Asserted Patents Are "Base" Or "Pioneering" Patents

InterDigital does not argue that the asserted patents are "base" or "engineering" patents. InterDigital's expert Dr. Putnam cautions that "[w]hile the fact that a patent is considered 'pioneering' could provide evidence of its value, a patent that 'merely' extends the claims of another patent may be equally or more valuable. In fact, one or more such 'improvement' patents often bridges the gap between a pioneering initial disclosure and a viable commercial product." (CX-1015C at ¶ 161.) Thus, patents issuing later in time extending the claims of a previous so-called "pioneering" patent may prove to be more valuable.

As the asserted patents are not "base" or "pioneering" patents, the ALJ finds that this factor is neutral as to whether the asserted patents are important to InterDigital's patent portfolio.

(e) Whether The Asserted Patent Is Infringed Or Practiced In The United States

As set forth in Section IV, none of the asserted patents was infringed or practiced in the United States. The ALJ finds that this factor weighs against whether the asserted patents are important to InterDigital's patent portfolio.

(f) Whether The Market Recognizes The Patents' Value In Some Other Way

Dr. Putnam identified additional indicators that InterDigital's patents have substantial market value. In particular, consistent with the economic literature, he examined movements in InterDigital's share price in response to news about its patents. (CX-1015C at ¶ 165-168.)

First, in analyzing movements in InterDigital's share price in response to news regarding its portfolio or specific patents, Dr. Putnam found 24 qualifying events. (*Id.* at ¶ 171.) [redacted] Since the broader market index increased in

value by about 1.7% that day, InterDigital earned a daily "excess" return of -24.3%. (*Id.*) In dollar terms, InterDigital's market capitalization thus dropped by about $258 million based on the news regarding patents related to those in this Investigation. Dr. Putnam summarizes the complete results of his market analysis in CX-0964C. Of the 24 events reviewed in Dr. Putnam's analysis, 18 produced fluctuations in InterDigital's value of $100 million or more. (*Id.* at ¶ 172.) From this uncommon market fluctuation, Dr. Putnam concluded that:

> InterDigital's investors carefully follow and trade on news about individual (or small groups of) InterDigital patents, and that the large gains and losses indicated by these trades demonstrates the high valuations that investors place on these individual patents. These findings are consistent with the conclusion that InterDigital's exploitation of its most important patents, as that exploitation evolves through licensing and litigation, constitutes an economically significant "industry."

(*Id.* at ¶ 173.) As related to the asserted patents in particular, Dr. Putnam testified that on August 1, 2012, InterDigital won an appeal at the Federal Circuit in the 613 investigation regarding two patents asserted in this Investigation. That news increased InterDigital's value by $165 million. (*Id.* at ¶ 174.) Consequently, based on the market's reaction to news regarding InterDigital's patents and portfolio as demonstrated by correlated and unexpected fluctuations in share price, the market recognizes the value of InterDigital's patents, including the asserted patents.

The evidence shows that InterDigital's market value fluctuates when news of developments in InterDigital's patent litigations is reported. As such, the ALJ finds this factor weighs in favor of a determination that the asserted patents are important to InterDigital's patent portfolio.

(3) The Scope Of The Technology Covered By The Portfolio Compared To The Scope Of The Asserted Patents

InterDigital's licensing program covers a relatively narrow range of economic activity – sales of mobile devices conforming to particular cellular technical standards. CX-1015C at ¶

175. Thus, while InterDigital's patents surely relate to a range of technical functions, most or all of these functions enable end-users or consumers to perform a single type of operation: to communicate wirelessly in compliance with certain technical standards. The asserted patents thus fit "congruently" with InterDigital's portfolio. *Id.; see also Navigation Devices* at 12.

(4) Conclusion

Based on the foregoing, the ALJ finds that InterDigital has shown the existence of a nexus between the asserted patents and its U.S. investments in 3G and 4G licensing.

d) Nexus to the United States

The Commission has explained that "[t]he most obvious requirement of Section 337(a)(3) is that the investment occur in the United States." *Navigation Devices*, at 14. There is no requirement that ***all*** of a complainant's activities occur in the United States. *Integrated Circuits* at 170. Here, the evidence shows that InterDigital employs individuals in the United States who work on its licensing operations. (CX-1003C at ¶ 10-136.) The evidence further shows that InterDigital is a United States company that incurs costs related to its United States licensing operation. (CX-1016C at ¶ 69.) Thus, the ALJ finds that InterDigital has established a nexus to the United States.

e) InterDigital's Domestic Industry Investments Are Substantial

The Commission has adopted "a flexible approach whereby a complainant whose showing on one or more of the three Section 337(a)(3)(C) requirements is relatively weak may nevertheless establish that its investment is 'substantial' by demonstrating that its activities and/or expenses are of a large magnitude." *Navigation Devices* at 15. The Commission has held that some factors that might be relevant in determining whether a complainant's investment is

substantial are (i) the industry and size of the complainant; (ii) the existence of other types of "exploitation" of the asserted patent such as research, development, or engineering; (iii) the existence of license-related ancillary activities such as ensuring compliance with license agreements and providing training or technical support to its licensees; (iv) whether complainant's licensing activities are continuing, and (v) whether complainant's licensing activities are those that are referenced favorably in the legislative history of Section 337(a)(3)(C). *Navigation Devices* at 15-16. The complainant's return on its licensing investment (or lack thereof) may also be circumstantial evidence of the complainant's investment. *Id.*

InterDigital argues that its investment of approximately [redacted] in exploitation of the asserted patents is "of a large magnitude" as to constitute "substantial" under any threshold. (CIB at 161-162.) Staff agrees. (SIB at 202.) Even under Dr. Putnam's alternate analysis, InterDigital's "alternate" investment of approximately [redacted] in exploitation of the asserted patents through licensing meets any minimum threshold of "substantial." (*Id.*) Similarly, to the extent the Commission would require a demonstration of domestic industry based on the patents asserted against each Respondent, Dr. Putnam opined that InterDigital's investment of approximately [redacted] (for the patent asserted against Nokia) is likewise substantial. (*Id.*)

Respondents argue that InterDigital has failed to show that its investments are substantial because (1) it methodology was unreliable; (2) it arbitrarily allocated 50% of its investments to non-patent specific costs; (3) it overstates it compensation-related and facility-related licensing expenses because it includes foreign and related patents; and (4) in the context of InterDigital's total operating expenses, the Asserted Patents accounted for only [redacted] of its total operating expense and [redacted] of its patent administration and licensing expense. (RIB at 175-177.)

The ALJ finds Respondents' arguments unpersuasive. The evidence shows that InterDigital's methodology, nearly identical to that used in Inv. No. 337-TA-800, is an acceptable means of allocating expenses. In order to determine the amount of time InterDigital spent on its 3G and 4G licensing program, InterDigital CFO Richard Brezski interviewed InterDigital personnel *multiple times*. (CIB at 138-141.) During those interviews, InterDigital personnel consulted their emails, files, and other contemporaneous documentation to assist them with their estimates of time spent on 3G and/or 4G licensing. (CX-0335C (recording "what records do you maintain re: 3G/LTE licensing activities"); CX-0376C (same); Tr. (Ditty) at 611:1-13 ("A: I don't think it was solely my recollection. I would have reviewed certain documents, e-mails, calendar entries, certainly an estimation of my -- just my day-to-day activities that I typically spend in licensing matters.").) The estimates of time ultimately provided by those personnel were then separately verified by Mr. Lawrence Shay, the head of the licensing department and personally signed by each InterDigital employee to confirm their accuracy. (CX-1016C at ¶ 43, 58; CX-0335C.)

As for Respondents' argument that the employee estimates are allegedly inflated in view of those provided in the 800 Investigation, Mr. Brezski explained how licensing activities that dually related to both 3G and 4G licensing were both allocated in the 800 Investigation and this Investigation in a manner that preserved precisely the estimates of time spent on 3G licensing, 4G licensing, or both. (Brezski Tr. at 367:25-370:15.)

Regarding Respondents' argument that under Dr. Putnam's formula, [redacted] in investments would be attributed to a patent "even if none of the documents mention the Asserted Patents," Dr. Putnam testified that his method of allocation of InterDigital's fixed and variable expenses "is designed for use with patents that are mentioned prominently, not with any patent at

all, any patent or a patent that's never mentioned. That would be inaccurate. I wouldn't apply it to that patent." (Putnam Tr. at 1497:5-16.) Dr. Putnam's allocation of InterDigital's licensing investments to the asserted patents is based on economic principles.

Finally, as for Respondents' arguments regarding the substantiality of InterDigital's investments in the asserted patents, InterDigital asserts that the appropriate context in which to consider InterDigital's investments in the exploitation of the asserted patents through licensing is to compare it to InterDigital's licensing expenses for its 3G and/or 4G portfolio generally. Dr. Putnam's allocation analysis ***does just that***. (*Id.* at ¶ 68-83 (determining that of InterDigital's approximately [redacted] investment in its 3G and/or 4G licensing program, InterDigital invested approximately [redacted] of that to exploit the asserted patents).) InterDigital's investment of ***millions of dollars*** in exploiting the asserted patents is substantial under any threshold. (CX-1015C at ¶ 186-190; Compl. Br. at 160-164; Staff Br. at 202.) InterDigital further argues that the comparison to InterDigital's total expenditures "ignores the basic economic realities that research and development leading to a patent, or patent office prosecution of a patent, simply costs more than license negotiation." (CRB at 83.)

The evidence shows that InterDigital's investments in the exploitation of the asserted patents are "substantial." Aside from the [redacted] invested in the exploitation of the asserted patents, the evidence shows that there are other types of "exploitation" of the asserted patent such as research, development, or engineering. InterDigital invests significantly in developing the technology that it eventually patents and then seeks to license, such as the asserted patents. (CX-1015C at ¶191.) Second, there exist other licensing-related ancillary activities such as ensuring compliance with license agreements. (CX-1016C at ¶ 39.) Third, InterDigital's licensing activities are undisputedly continuing. Fourth, InterDigital's licensing activities are

those that are referenced favorably in the legislative history of Section 337. Specifically, InterDigital engages in production-driven licensing designed to exploit the significant research and development expended creating and licensing new technologies to bring new products to market. (CX-1015C at ¶ 56.) Finally, since 2005, InterDigital generated approximately [redacted] in licensing fees from licenses that include 3G and/or 4G patents. (*Id.* at ¶ 50 (citing CX-0379C), s*ee also Navigation Devices* at 24 (licensing revenues are "circumstantial evidence that an investment was made" in the Asserted Patents).)

Moreover, the Commission has twice before recognized that InterDigital satisfied the economic prong based on exploitation of patents through licensing. *InterDigital Commc'ns, LLC*, 707 F.3d 1295, 1298-99 (Fed. Cir. 2013). There is no indication that the facts or InterDigital methodology in calculating its expenditures in this Investigation have significantly changed from those previous analyses. Dr. Putnam testified that, based on Commission precedent, basic economic principles, and the documentary evidence of InterDigital's actual licensing practices, its allocated investment in exploiting the Asserted Patents is approximately [redacted]. As recently recognized by the Federal Circuit, InterDigital represents "a classic case for the application of [19 U.S.C. § 1337(a)(3)] subparagraph (C)." *InterDigital Commc'ns,* 707 F.3d 1295, 1298-99 (Fed. Cir. 2013).

Therefore, for the reasons set forth above, the ALJ finds that Respondents have satisfied the economic prong of the domestic industry requirement through its substantial investments in licensing.

2. Research and Development

In addition to its investments in licensing, InterDigital argues that it also meets the economic prong based on its substantial investments in research and development. (CIB at 165-178.) Staff agrees. (SIB at 197-200.)

Respondents argue that InterDigital has failed to show that its investment are substantial. (RIB at 177-182.) InterDigital "presents costs for various projects identified by counsel, including (i) employee compensation, (ii) contracted labor, (iii) non-labor operating expenses, and (iv) capital expenditures" instead of calculating specific investments in products protected by the patents. (RIB at 178-179.)

For the reasons set forth below, the ALJ finds that InterDigital has met the economic prong with its substantial investments in research and development.

a) InterDigital's Investment In Research & Development

The evidence shows that InterDigital invests extensively in research and development performed in facilities across the country, including in Pennsylvania, New York, Delaware, and San Diego. (RX-2319; CX-1006C at ¶ 26.) Since the first quarter of 2001, it has invested over $767 million in R&D generally, almost entirely in the United States. (CX-3935C at ¶ 58; CX-1015 at ¶ 43.) Of particular interest in this Investigation, InterDigital has made a substantial investment in research and development to exploit the asserted patents. During 2009 through 2012, InterDigital performed vast amounts of research and development leading to the creation of articles and designs that exploit the asserted patents.

The '966 and '847 Patents generally claim an initial access procedure used in WCDMA telecommunications networks and devices. InterDigital invested in a series of R&D projects that support and relate to the creation of articles and designs that operate on a WCDMA network, and

thus use the initial access procedure of the '966 and '847 Patents. Specifically, InterDigital has invested in the development of its 6071 articles, which consist of the 6071 baseband processor and devices using that chip to enable a computer to connect to a WCDMA network. (CX-1006C at ¶ 114.) It has similarly invested in a series of interrelated projects to develop its 6102 articles – which consist of hardware source code (used to describe circuits for automated electronic design), software source code, and design documentation – that were sold to three companies to be incorporated into their WCDMA wireless devices. (*Id.*)

The '151 Patent generally claims an apparatus and method for using a common control channel to signal both uplink and downlink channel assignment information in an LTE telecommunications system. InterDigital has invested in the development of its DSM-LTE platform, which is a prototype device consisting of hardware and software, which is used to demonstrate and test improved LTE communication between user equipment and a base station. (*Id.* at ¶ 320, 341.)

Expenditures for such research and development are meticulously tracked as part of InterDigital's ordinary course of business in its Oracle database as relating to specific projects, which are identified by name. (CX-1006C at ¶ 11-18, 25, 27-28; CX-1016C at ¶ 76-82; CX-0378; CX-0377; CX-0333C; CX-2287C.) Each of these engineering projects has a defined scope and is composed of various activities supporting that scope. (CX-1006 at ¶ 116-305, 324-75.) These activities are technical research, design work, product support, testing, service, qualifying vendors, customer training and support, the drafting of manuals, and technical work building the actual articles that exploit InterDigital's asserted patents. (*Id.*)

Mr. Brezski and Michael Jeronis, a Senior Director of InterDigital's Solutions Organization who manages 30 engineers, conservatively determined that InterDigital's domestic

expenditures totaled [redacted] on projects that exploit the '966 and '847 Patents and [redacted] on projects that exploit the '151 patent. (*See, e.g.*, CX-1016C at ¶ 78-82; CX-1006C at ¶ 27-30, 116-305, 324-75; CX-1015C at ¶ 43.) These investments were determined from InterDigital's Oracle database and information from InterDigital's payroll company, ADP. *Id.* InterDigital included domestic employee compensation, non-labor operating expenditures ("OPEX"), capital expenditures ("CAPEX"), and contracted labor, but conservatively did not include overhead costs. (CX-1006C at ¶ 11-16, 26; CX-1016C at ¶ 74-79.) InterDigital further excluded any InterDigital employees and contractors not based in the United States. (*Id.* at ¶ 26; Jeronis Hearing Tr. at 582:12-583:14; CX-0377.) The reports and underlying data from InterDigital's Oracle database were carefully and repeatedly reviewed to ensure that only domestic research and development expenses related to the scope of each project were included. (*Id.* at ¶ 30; CX-1016C at ¶ 76.) When there was any ambiguity, the expense was removed entirely. (Jeronis Tr. at 582:12-24.)

b) A Nexus Exists Between the Patents And InterDigital's Research & Development

The evidence shows that InterDigital's substantial domestic expenditures on R&D projects are directed to articles that incorporate the patented technologies. (CX-1006 at ¶ 114-115, 333, 351-356.) InterDigital argues that these expenditures relate "to research and development, as well as product support, testing, service," customer training and support, the drafting of manuals, design work, qualifying vendors, and technical work, which "are properly considered in determining whether the economic prong is satisfied." (CIB at 167-168 citing *Certain Cold Cathode Fluorescent Lamp ("CCFL") Inverter Circuits and Prods. Containing Same*, Inv. No. 337-TA-666, Order No. 30 at 4-5 (2009); *See also Certain Digital Set-Top Boxes and Components Thereof*, Inv. No. 337-TA-712, Notice of Comm'n Determination, at 2 (2011)

(crediting support activities); CX-1006 at 129, 138, 145, 149, 153, 157, 166, 170, 177, 182, 189, 198, 203, 210, 217, 224, 231, 238, 245, 252, 257, 264, 271, 280, 285, 292, 299, 324, 331, 341.)

(1) WCDMA Research and Development

The evidence shows that from 2009 through today, InterDigital has made substantial investments in research and development to create articles and designs that exploit the '966 and '847 Patents. InterDigital's [redacted] expenditure in 2009 through 2012 represents a substantial investment in the exploitation of these patents. (CX-1006C at ¶ 114-316; CX-1015C (Putnam) at ¶ 43-45.) InterDigital's continuous investment in the '966 and '847 Patents is for research and development relating to several baseband processors – the "brain" of subscriber units that communicate on a WCDMA network. (CX-1006C at ¶ 115.)

[redacted]

[redacted]

[redacted]

[redacted][10]

(2) LTE Research & Development

The evidence shows that, since 2009, InterDigital has devoted substantial resources to improving LTE communication through the use of Dynamic Spectrum Management (DSM), which allows data traffic to travel over licensed LTE frequency bands and underutilized bands, such as TV White Space. (CX-1006C at ¶ 321, 324-27, 331-36, 341-44.) The DSM-LTE platform increases the capacity of wireless communications by offloading traffic from congested LTE bands to unlicensed and underutilized spectrum. (*Id.* at 321, 341-42.) The DSM-LTE platform is a prototype platform. This prototype was used to test, demonstrate, and enable the sale of InterDigital's DSM-LTE solution – DSM-LTE algorithms, source code, and supporting documentation. (CX-1006C at ¶ 374.) Components of the DSM-LTE platform were created under three related InterDigital LTE projects: [redacted] InterDigital invested at least [redacted] in these projects to exploit the '151 patent. (CX-1016C at ¶ 78-82; CX-1006C at ¶ 317-84; CX-1015C at ¶ 43, 45-47; CX-1014C at ¶ 1077-1209.)

[10] [redacted]

[redacted]

[redacted] InterDigital employees in New York and Pennsylvania were actively involved in the design and writing of source code and testing of these new features. (*Id.* at ¶ 342, 343, 356, 359; CX-0378C; CX-0377C.) InterDigital performed tests which practice claim 1 of the '151 patent. (*Id.* at ¶ 369-371.) [redacted] InterDigital also incurred non-labor operating expenses and capital expenses including: travel, R&D tools and materials, and LTE/WLAN Digital Baseband Board Prototypes and Materials needed to complete the DSM-LTE platform. (*Id.* at ¶ 346, 347; CX-1016C at ¶ 81;

CX-0333C.)

[redacted]

c) InterDigital's Research & Development Investments Are Substantial

The evidence shows that, since the first quarter of 2001, InterDigital has invested $767 million in R&D, almost entirely in the United States, and, as of 2012, InterDigital employed approximately 170 engineers. (CX-1015C at ¶ 42, 43.) Dr. Putnam reviewed the expenditures specifically related to the research projects that exploit the asserted patents. (*Id.* at 43.) Work on articles that exploit the patents was described by Michael Jeronis and demonstrated to exploit the patents by Drs. Jackson and Brogioli. (*Id.*) InterDigital's domestic expenditures on each of these projects from after 2008 through 2012 total *at least* [redacted] to exploit the '151 patent and *at least* [redacted] to exploit the '847 and ''966 Patents. (*Id.*) Each separate grouping of investments alone represents substantial expenditures and investments in research and development directly attributable to the asserted patents. (*Id.* at 45.) As explained above, these investment figures, despite being substantial in and of themselves, likely understate the true investments made by InterDigital in exploiting the asserted patents. (*Id.* at ¶ 45-46.) Dr. Putnam

concluded that these investments are substantial. (CX-1015C at ¶ 44.)

As for Respondents' arguments, the ALJ finds those unpersuasive. The ALJ finds the methodology used by InterDigital to be an acceptable means of allocating expenditures. As noted previously, the manner in which expenses must be allocated and required by the Commission in proving the economic prong is not kept in the ordinary course of business. Consequently, to the extent that complainants must calculate and create methodologies to create such expenses in order to satisfy the Commission's economic prong, the ALJ finds that those must be addressed on a case by case basis. And, in this instance, the ALJ finds that InterDigital's methodology is acceptable in attempting to allocate expenses. The evidence shows that InterDigital's R&D engineers are focused on making articles, not necessarily on patents exploited by these articles. Therefore, investments in the development of articles that exploit the patents are tracked by project name during the ordinary course of business in InterDigital's Oracle database. (CX-1006C at ¶ 11-18, 25, 27-28; CX-1016C at ¶ 76-82; CX-0378; CX-0377; CX-0333C; CX-2287C; CIB at 164-66.) The work performed under each of these projects is related to articles that exploit the '847, '966, and '151 patents. (*Id.* at ¶ 114-305, 317-75.)

Therefore, for the reasons set forth above, the ALJ finds that Respondents have satisfied the economic prong of the domestic industry requirement through its substantial investments in research and development.

IX. CONCLUSIONS OF LAW

1. The Commission has personal jurisdiction over the parties and subject-matter and *in rem* jurisdiction over the accused products.
2. The importation or sale requirement of section 337 is satisfied.
3. The Accused Products do not directly infringe the '151 Patent, the ''966 Patent or the '874 Patent.
4. Respondents do not indirectly infringe the '151 Patent.
5. The'151 Patent, the ''966 Patent and the '874 Patent are not invalid under 35 USC § 102 for anticipation.
6. The'151 Patent, the ''966 Patent and the '874 Patent are not invalid under 35 USC § 103 for obviousness.
7. Claim 16 of the '151 Patent is invalid as indefinite.
8. The '151 Patent, the''966 Patent and the '874 Patent are not invalid for lack of written description under 35 USC § 112.
9. The '151 Patent is not unenforceable due to inequitable conduct.
10. Respondents have not failed to show that InterDigital has violated any FRAND obligation.
11. The technical prong of the domestic industry requirement has not been satisfied for the '151 Patent, the''966 Patent and the '874 Patent.
12. The economic prong of the domestic industry requirement under 19 U.S.C. § 1337(a)(3) (C) has been satisfied.
13. It has not been established that a violation exists of section 337 for the asserted claims of the '151 Patent, the''966 Patent and the '874 Patent.

X. INITIAL DETERMINATION AND ORDER

Based on the foregoing, it is the INITIAL DETERMINATION of this ALJ that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain wireless devices with 3G and/or 4G capabilities and components thereof by reason of infringement of certain claims of U.S. Patent No. 7,941,151.

It further the INITIAL DETERMINATION of this ALJ that a no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain wireless devices with 3G and/or 4G capabilities and components thereof by reason of infringement of certain claims of U.S. Patent Nos. 7,190,966 and 7,286,847.

Further, this Initial Determination, together with the record of the hearing in this investigation consisting of:

(1) the transcript of the hearing, with appropriate corrections as may hereafter be ordered, and

(2) the exhibits received into evidence in this investigation, as listed in the attached exhibit lists in Appendix A,

are CERTIFIED to the Commission. In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential by the undersigned under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

The Secretary shall serve a public version of this ID upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order (Order No. 1.) issued in this investigation.

RECOMMENDED DETERMINATION ON REMEDY AND BOND

I. Remedy and Bonding

The Commission's Rules provide that subsequent to an initial determination on the question of violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination containing findings of fact and recommendations concerning: (1) the appropriate remedy in the event that the Commission finds a violation of section 337, and (2) the amount of bond to be posted by respondents during Presidential review of Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii).

A. Public Interest Findings

In connection with this Recommended Determination, and pursuant to Commission Rule 210.50(b)(1), 19 C.F.R. § 210.50(b)(1), the Commission ordered the presiding administrative law judge:

> [S]hall take evidence or other information and hear arguments from the parties and other interested persons with respect to the public interest in this investigation, as appropriate, and provide the Commission with findings of fact and a recommended determination on this issue, which shall be limited to the statutory public interest factors set forth in 19 U.S.C. 1337(d)(1), (f)(1), (g)(1);

77 Fed. Reg. 65713 (October 30, 2012).

Before issuing a remedy for a violation of Section 337, the Commission must consider the effect of the remedy on the following public interest factors: (1) the public health and welfare, (2) competitive conditions in the United States economy, (3) production of like or directly competitive articles in the United States, and (4) United States consumers. 19 U.S.C. §§ 1337(d)(1), (f)(1). The Commission considers the fact that the public interest favors the protection of United States intellectual property rights by excluding infringing products. *See,*

e.g., *Certain Two-Handle Center Set Faucets and Escutcheons and Components Thereof*, Inv. No. 337-TA-422, Comm'n Op. at 9 (July 21, 2000).

Historically, the Commission interpreted the legislative history of Section 337 to mean that exclusionary relief should only be denied when the adverse effect on the public interest factors would be greater than the interest in protecting the patent holder. *Certain Battery-Powered Ride-On Toy Vehicles and Components Thereof*, Inv. No. 337-TA-314, Comm'n Op. at 11 (April 9, 1991). The Commission has concluded that the public interest considerations outweighed the need to protect the intellectual property rights of complainant in only three investigations, all of which were decided prior to the 1988 legislative amendments to Section 337 that removed the requirement that patentees show irreparable harm in order to obtain relief. *See Spansion Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1360 (Fed. Cir. 2010) (discussing the history of public interest at the ITC). These three instances include one investigation involving hospital burn beds where the complainants unable to meet demand if the imports were excluded *Certain Fluidized Supporting Apparatus and Components*, Inv. No. 337-TA-182/188, Comm'n Op. (October 1984); another investigation involving basic atomic research where the domestic supply was inferior to the imported supply, *Certain Inclined-Field Acceleration Tubes and Components*, Inv. No. 337-TA-67, Comm'n Op. (December 1980); and finally, an investigation during the second oil shock following the Iranian revolution involving technology necessary for increasing fuel efficiency of vehicles where the domestic industry was unable to meet the demand, *Certain Automatic Crankpin Grinders*, Inv. No. 337-TA-60, Comm'n Op. (December 1979).

More recently, the Commission has applied the public interest factors to not necessarily deny a remedy, but rather to tailor the remedy to minimize the impact on the public interest. *See,*

e.g., *Certain Personal Data*, Inv. No. 337-TA-710, Comm'n Op. at 83 (delaying the effective date of an exclusion order based on competitive conditions in the U.S. economy); *Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, Including Cellular Telephone Handsets*, Inv. No. 337-TA-543, USITC Pub. No. 4258, Comm'n Op., 148-54 (October 2011) (grandfathering certain existent mobile telephone models from the scope of the exclusion order); *Certain Automated Mechanical Transmission Systems for Medium-Duty and Heavy-Duty Trucks, and Components Thereof*, Inv. No. 337-TA-503, Comm'n Op. at 5 (May 9, 2005) (exempting from the scope of the exclusion order replacement parts for existing truck transmissions); *Certain Sortation Systems, Parts Thereof and Products Containing Same,* Inv. No. 337-TA-460, Comm'n Op. at 18-20 (February 19, 2003) (exempting from the scope of the exclusion order replacement parts for a UPS hub facility).

1. Impact on Competitive Conditions in the U.S. Economy

While the denial of entry to the products may in the short term affect the choices available to the US economy, it is unlikely that the impact would have a lasting effect. It is equally unlikely that any of the Respondents would abandon efforts to continue in the US market, either designing around the patents or by taking a license. While the threat of the exclusion order may motivate Respondents to take a license at a higher rate than if they were successful in limiting the lawful remedies available to their adversary, there has been no proof that such a license would be unfair unreasonable or discriminatory. There are at least 15 other companies that RX-0433C listed as having a share of the U.S. market. Nokia argues that exclusion of Nokia's accused products would threaten the viability of the U.S. Windows Phone operating system ("WPOS"), creating a de facto ***monopoly***: (1) in Google's Android as the only

other U.S. multivendor operating system ("OS") for smartphone manufacturers; and (2) in Google as the only other U.S. search engine. Thus, rather than having "broad choices," U.S. consumers would have no choice in these areas. While the loss of Nokia handsets may create such market conditions in the short run, Nokia discounts the ability of Microsoft to find other sources of handsets to use its software without evidence as to why these companies cannot provide handsets with WPOS if there is consumer demand. While Nokia argues that loss of their handsets would result in in loss of WPOS in the US market, there is an alternative handset manufacturer, HTC that makes WPOS products. There has been no showing by Nokia that the potential loss of its handsets in the market would outweigh the strong interest in protection of intellectual property rights in the U.S. As stated previously:

> The DOJ and USPTO recognize that the right of a patent holder to exclude others from practicing patented inventions is fundamental to obtaining these benefits. It is incorporated into section 337 of the Tariff Act of 1930 itself, which forbids the unlawful "importation into the United States... of articles that.., infringe a valid and enforceable United States patent.'' As noted in the Administration's 2010 Joint Strategic Plan on Intellectual Property Enforcement, "[s]trong enforcement of intellectual property rights is an essential part of the Administration's efforts to promote innovation and ensure that the U.S. is a global leader in creative and innovative industries. Accordingly as historically has been the case, exclusion typically is the appropriate remedy when an imported good infringes a valid and enforceable U.S. patent.

(RX-2661.) Nothing that Nokia has offered overcomes the appropriateness of the exclusion order if infringement is found against their devices.

Respondents ignore the ETSI agreement, paragraph 4.3, that allows a party to use the national courts in a dispute, and states they are willing to take a license. They do not say they will do so as required by the ETSI agreement, that is, to fairly and adequately compensate the IPR owner. While Respondents state a willingness to take a license, they have yet to do so, and are manufacturing handsets in violation of the ETSI agreement. It appears rather than follow the

rules of ETSI, Respondents have pulled from the agreement five words, and has fashioned from them a sword to strike down legal remedies and to hold their own duties at bay as long as possible. It makes good business sense, for as long as they hold out, they get the IPR for free, and in the end, they are counting on getting it at either no cost if they prevail in validity or infringement, or the price of a FRAND, the price they would have paid if they had followed the agreement in the first place. The Respondents ignore the other provisions in the ETSI agreement [those duties on their side], and attempt to make it a contract of adhesion, sticking to the IPR owners to their disadvantage, freeing up the potential infringers by controlling their risks. It is not in the public interest to support this.

Nowhere in the exhibits do Respondents mention the duties they have under the ETSI agreements, nor the rights of InterDigital to use the courts if the parties could not reach an agreement. (CX-3912 Para 4.3.) The agreement also calls for the party that believes it cannot reach an agreement to inform ETSI, so it can attempt to mediate the issue. "Should this fail, the Members concerned are invited to inform the ETSI GA in case a friendly mediation can be offered by other ETSI Members and/or the ETSI Secretariat". None of the Respondents have done this.

2. Impact on United States Consumers

Nokia has indicated in its brief that if their handsets were excluded it would limit consumer choice in operating systems, denying those that use the android systems a choice beyond google. Nokia handsets are an option for those that wish to use WPOS operating system, which constitutes about 9% of the market. HTC also produces such handsets. While Nokia has argued that it would harm WPOS if Nokia handsets were excluded from the US market, they have not been able to sustain an argument that the potential harm done would exceed that harm

that is a potential for any exclusion order, and have not succeeded in persuading that the public interest requires the ITC to not impose an exclusion order if the Nokia products were found to infringe. While Nokia argued that an exclusion order would have the impact of destroying the Microsoft OS in the U.S. and perhaps the world, [redacted] Nokia also argued for a delay of at least 12 months if there were an exclusion order granted, based at least in part to: resolve FRAND issues and negotiate a FRAND license; develop and implement design-arounds for FRAND-encumbered patents; increase third party device production to compensate for shortages an exclusion order would impose; and identify a comparable replacement for Nokia, if one exists, as the key U.S. supplier of Windows Phone OS devices. (See, e.g., RX-4301C (Davies) at Q48, 53-82, 100-276; RIB at 220-25; RPHB at 87-89.) While it is in Nokia's interest to continue to produce and import handsets, without resolving their duty to pay InterDigital, there is no public interest served by letting the respondents further delay their licensing negotiation. If there were a finding of infringement, there would be no public interest served in delaying the implementation of the exclusion or cease and desist orders.

3. Impact on Public Health, Safety, and Welfare

In arguing that the public interest would be harmed if an exclusion order were to issue, the Respondents do little more than recite those words, "The requested remedy in this Investigation is of unprecedented and staggering scope (Davies Tr. 922:17-19) and would have substantial adverse impact on the statutory public interest factors. " (RIB at 210.) The respondents footnote three cases where the ITC has in the public interest refused to issue a remedy, *Fluidized Supporting Apparatus*, Inv. No. 337-TA-182/188, Comm'n Op. (Oct. 5,

1984); *Inclined Field Acceleration Tubes*, Inv. No. 337-TA-67, Comm'n Op. (Dec. 29, 1980); *Automatic Crankpin Grinders*, Inv. No. 337-TA-60, Comm'n Det. & Order (Dec. 17, 1979).

In each of those cases there were specific compelling facts demonstrating why the public would be harmed, not a mere incantation of the words "adverse impact on the public interest". In *Fluidized Supporting Apparatus* burn patients in hospitals would suffer unnecessarily because the patent owner could not meet the market demand. In *Inclined Field Acceleration Tubes* the U.S. nuclear program would be harmed if the tubes were excluded and finally in *Automatic Crankpin Grinders* the ability of the U.S. to build cars that would get better gas mileage during the gas crisis would have been hampered. In each case a real threat to the best interests of the country was proven. Such is not the case here. The Respondents have attempted to justify the public interest by citing to the President's press release on his goal of expanding 4G wireless access. (RX-0236.) While the press release does set a goal of access to 4G networks, it does not mention handsets, nor indicate that there is a shortage of handsets.

The Respondents' exhibits RX-433C and RX-437 do indicate that enough units have been shipped to the United States for every potential customer to have one. As a result, if an exclusion order and/or cease and desist order were to issue, it would not deny access to the 4G technology, but at worst would cause those that wanted to upgrade, or replace a broken telephone to have to wait for a longer period of time, or to select a model they would not otherwise. This can be contrasted to *Baseband Processor Chips*, Inv. No. 337-TA-543, Comm'n Op. (June 19, 2007) where the Commission took evidence that first responders would be harmed if the exclusion order were implemented without delay. We have no such evidence of a threat to health or public welfare in this case. While the respondents presented evidence that the exclusion order and cease and desist order may disrupt the market in cell phones, they did not tie

that to the public health and welfare in the United States. In contrast the Policy statement of the DOJ/USPTO, and the president acknowledge the importance of protecting IPR in the United States. Thus the ALJ finds that the public's health and welfare have not been shown harmed by the potential exclusion order.

4. Impact on the Production of Like or Directly Competitive Articles in the United States

There is no evidence in the record that any like or directly competitive articles are produced in the United States.

5. Conclusion

Based on the foregoing, the ALJ finds that the public interest does not support using "FRAND" to deny an exclusion order.

B. Limited Exclusion Order

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order directed to respondents' infringing products is among the remedies that the Commission may impose, as is a general exclusion order that would apply to all infringing products, regardless of their manufacturer. *See* 19 U.S.C. § 1337(d).

InterDigital argues that a limited exclusion order should be issued if a violation is found. (CIB at 239.) InterDigital argues, however, that the limited exclusion order should not be delayed because the evidence does not support such a delay, including the fact that the numerous examples of non-Respondents quickly ramping up production when necessary to meet market demand. (*Id.*)

Respondents argue that any remedial order should be narrowly tailored and that any such order should be delayed for 12 months. Specifically, Respondents seek (1) a carve out of any

non-infringing and non-accused products; (2) an affirmative finding that the non-infringing products are not subject to exclusion; (3) a certification provision for non-accused products; (4) an explicit statement that government sales are not precluded; and (5) to allow Respondents to honor their commitments to carriers and consumers to stand by the performance and maintenance of their products. (RIB at 230-231.) Respondents argue that a 12 month delay of any remedial order is necessary because (1) it would allow the Federal Circuit to deal with any FRAND issues; (2) to allow Respondents to conclude their negotiations for a license to any of InterDigital's patents, including those found to be valid, infringed and essential; (3) to allow Respondents to have a sufficient opportunity to determine the feasibility of design-arounds and then, if viable, to implement such design-arounds; and (4) industry participants can replace Nokia as the main Windows Phone OS-based devices manufacturer in the U.S..

Staff argues that a delay of 6 months would be sufficient to mitigate any harm to the public interest. (SRB at 65-66.) Staff further supports permitting continued imports of refurbished products or grandfathering some or all of Respondents' existing products. (*Id.*) Staff argues that Respondents' request for a 12 month delay is unnecessary since new products will continue to come to the market regardless of the remedy in this investigation. (*Id.*)

Should the Commission find a violation, the ALJ recommends that the Commission issue a LEO and narrowly tailor it as recommended by Respondents and to delay its effect by 6 months as recommended by Staff. The ALJ agrees with Staff and Respondents that the delay is warranted and necessary to mitigate effect on the public and U.S. consumers.

C. Cease and Desist Order

Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease and desist order as a remedy for violation of section 337. *See*

19 U.S.C. § 1337(f)(1). The Commission generally issues a cease and desist order directed to a domestic respondent when there is a "commercially significant" amount of infringing, imported product in the United States that could be sold so as to undercut the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, USITC Pub. 2391, Comm'n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof and Products Containing Same, Including Air Conditioners for Automobiles*, Inv. No. 337-TA-334, Comm'n Op. at 26-28 (Aug. 27, 1997).

InterDigital argues that a cease and desist order against Nokia is appropriate because it contains an inventory of [redacted] with 4G capabilities. (CIB at 119.) InterDigital makes no requests regarding ZTE. Staff makes no specific comment regarding the cease and desist order but generally supports an exclusion order that is delayed by 6 months. (SRB at 65-66.) Respondents argue that no cease and desist order should issue because InterDigital presented no evidence that there are commercially significant inventories. (RIB at 230.)

Should the Commission find a violation, the ALJ recommends that the Commission issue a cease and desist order since Nokia appears to have commercially significant inventories of 4G wireless devices.

D. Bond During Presidential Review Period

The Administrative Law Judge and the Commission must determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to issue a remedy. The purpose of the bond is to protect the complainant from any injury. 19 C.F.R. § 210.42(a)(1)(ii), § 210.50(a)(3).

The parties agree that no bond during the presidential review period need be posted. (JX-0028 (Stipulation Regarding Bond).)

II. Conclusion

In accordance with the discussion of the issues contained herein, it is the RECOMMENDED DETERMINATION ("RD") of the ALJ should the Commission find a violation, then it should issue a LEO and narrowly tailor it as recommended by Respondents and to delay its effect by 6 months as recommended by Staff. The ALJ agrees with Staff and Respondents that the delay is warranted and necessary to mitigate effect on the public and U.S. consumers. The ALJ further recommends that the Commission issue a cease and desist order against the Nokia.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office (1) a copy of this document with red brackets indicating any portion asserted to contain confidential business information by the aforementioned date and (2) a list specifying where said redactions are located. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

Theodore R. Essex
Administrative Law Judge

CERTAIN WIRELESS DEVICES WITH 3G AND/OR 4G CAPABILITIES AND COMPONENTS THEREOF **Inv. No. 337-TA-868**

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served by hand upon the Commission Investigative Attorney, Lisa A. Murray, Esq., and the following parties as indicated on **June 26, 2014.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

On Behalf of Complainants InterDigital Communications, Inc., InterDigital Technology Corporation, IPR Licensing, Inc. and InterDigital Holdings, Inc.:

Maximilian A. Grant, Esq.
LATHAM & WATKINS LLP
555 Eleventh Street, NW, Suite 1000
Washington, DC 20004

( ) Via Hand Delivery
(X) Via Express Delivery
( ) Via First Class Mail
( ) Other:_____

On Behalf of Respondents ZTE Corporation and ZTE (USA) Inc.:

Jay H. Reiziss, Esq.
BRINKS GILSON & LIONE
1775 Pennsylvania Ave., Suite 900
Washington, DC 20006-2219

( ) Via Hand Delivery
(X) Via Express Delivery
( ) Via First Class Mail
( ) Other:_____

On Behalf of Respondents Nokia Corporation and Nokia Inc.:

Marsha E. Mullin, Esq.
ALSTON & BIRD LLP
333 South Hope Street, 16th Floor
Los Angeles, CA 90071

( ) Via Hand Delivery
(X) Via Express Delivery
( ) Via First Class Mail
( ) Other:_____

On Behalf of Respondents Samsung Electronics America, Inc., Samsung Telecommunications America LLC and Samsung Electronics Co., Ltd.:

Stephen J. Rosenman, Esq.
ROPES & GRAY LLP
700 12th Street NW, Suite 900
Washington, DC 20005

( ) Via Hand Delivery
(X) Via Express Delivery
( ) Via First Class Mail
( ) Other:_____