

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Motorola Mobility LLC and
Motorola Electronics America, Inc.,

Petitioner

v.

Evolved Wireless LLC,

Patent Owner

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. RE48,326**

Case No. IPR2021-01424

Mail Stop Patent Board
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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EXHIBITS

Exhibit No.	Short Name	Description
1001	the '326 patent	U.S. Patent No. RE48,326
1002	the Prosecution History	Prosecution History of the '326 Patent
1003	Nokia	Change request R2-061135, submitted by Nokia, NTT DoCoMo, to 3GPP TSG RAN WG2 Meeting #53, held 8 to 13 May 2006 in Shanghai, PRC, titled "Intra-LTE Handover operation"
1004	Hu	Chinese Patent No. 1596020, with English translation and certification statement of translation
1005	Provisional Application	U.S. Provisional Application No. 60/732,080
1006	R2-052502	Change Request R2-052502, submitted by Siemens to 3GPP TSG RAN WG2 for Meeting #48 held in Cannes, France on 10 to 14 th of October, 2005, titled "on RACH access systems"
1007	R2-051760	Change Request R2-051760, submitted by Ericsson, Nokia, Samsung, and Siemens to 3GPP TSG RAN WG2 ad hoc on LTE in Sophia Antipolis, France, held June 20 to 21, 2005, titled "Summary of the ad-hoc discussion and proposed way forward"
1008	R3-051106	Change Request R3-051106, submitted by NEC, NTT DoCoMo, for the Joint RAN2-RAN3 \$38 LTE meeting #48 held in Cannes, France on 10 to 14 th of October 2005, titled "EUTRAN handover procedure for LTE_ACTIVE"

Exhibit No.	Short Name	Description
1009	R2-051758	Change Request R2-051758, submitted by Nortel Networks, titled "LTE: RAN WG2 Summary Draft convenor", on June 22, 2005
1010	District Court Proposed Constructions	Exhibit A to Joint Claim Construction Statement, filed on May 17, 2016 as D.I. 57-1 in <i>Evolved Wireless, LLC v. ZTE Corp.</i> , 15-cv-546-SLR-SRF
1011	3GPP Home	Printout of 3GPP home page, <i>available at</i> http://www.3gpp.org
1012	3GPP Portal Home	Printout of 3GPP Portal Calendar of Meetings page, <i>available at</i> https://portal.3gpp.org/#/ .
1013	3GPP FAQs	Printout of 3GPP FAQs, <i>available at</i> http://www.3gpp.org/about-3gpp/3gpp-faqs .
1014	3GPP FTE	Printout of 3GPP FTP page, <i>available at</i> http://www.3gpp.org/ftp
1015	3GPP FTP TSG RAN	Printout of 3GPP FTP TSG RAN page, <i>available at</i> http://www.3gpp.org/ftp/tsg_ran
1016	3GPP FTP TSG RAN WG2 RL2	Printout of 3GPP FTP TSG RAN WG2 RL2 page, <i>available at</i> http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/
1017	3GPP FTP TSG RAN WG2 RL2 TSGR2_53	Printout of 3GPP FTP TSG RAN WG2 RL2 TSGR2_53 page, <i>available at</i> http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_53
1018	3GPP FTP TSG RAN WG2 RL2 TSGR2_53 Documents	Printout of 3GPP FTP TSG RAN WG2 RL2 TSGR2_53 Documents page, <i>available at</i> http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_53/documents

Exhibit No.	Short Name	Description
1019	Listserve 16.5 Archives - May 2006, week 1	Printout of Listserve 16.5 -- 3GPP_TSG_RAN_WG2 Archives - May 2006, week 1 page, <i>available at</i> https://list.etsi.org/scripts/wa.exe?A1=ind0605A&L=3GPP_TSG_RAN_WG2
1020	Listserve 16.5 Archives - May 3, 2006 message	Printout of Listserve 16.5 -- 3GPP_TSG_RAN_WG2 Archives page, showing May 3, 2006 message called “[RAN2#53] LTE contributions from Nokia + Motorola, MNTT DoCoMo and Samsung, <i>available at</i> https://list.etsi.org/scripts/wa.exe?A2=ind0605A&L=3GPP_TSG_RAN_WG2&O=D&P=32902
1021	Listserve 16.5 Archives - 3GPP_TSG_RAN_WG2 Home Page	Printout of Listserve 16.5 – LISTSERV Archives, showing 3GPP_TSG_RAN_WG2 Home Page, <i>available at</i> https://list.etsi.org/scripts/wa.exe?A0=3GPP_TSG_RAN_WG2
1022	Listserve 16.5 – LIST.ETSI.ORG home page	Printout of Listserve 16.5 – LISTSERV Archives, showing LIST.ETSI.ORG home page, <i>available at</i> https://list.etsi.org/scripts/wa.exe?INDEX
1023	SIB2 in LTE	Printout of SIB2 in LTE, Telecompedia, <i>available at</i> https://telecompedia.net/.sub2-in-lte/
1024	11/6/17 Transmittal of New Application	Prosecution History of the '326 Patent, November 6, 2017 Transmittal of New Application
1025	11/6/2017 Claims and Applicant Remarks	Prosecution History of the '326 Patent, November 6, 2017 Reissue Declaration
1026	11/28/2017 Claims and Applicant Remarks	Prosecution History of the '326 Patent, November 28, 2017 Applicant Remarks and Claims

1027	02/09/2018 Claims and Applicant Remarks	Prosecution History of the '326 Patent, February 9, 2018 Applicant Remarks and Claims
1028	06/05/2019 Claims and Applicant Remarks	Prosecution History of the '326 Patent, June 5, 2019 Applicant Remarks and Claims
1029	4/5/2020 Non-Final Rejection	Prosecution History of the '326 Patent, April 6, 2020 Non-Final Rejection
1030	7/17/2020 Notice of Allowance	Prosecution History of the '326 Patent, July 17, 2020 Notice of Allowance
1031	Delegates Corner	Printout of Delegates Corner, <i>available at</i> http://www.3gpp.org/specifications-groups/delegates-corner .
1032	3GPP TS 25.213 v6.4.0	3GPP TS 25.213 v6.4.0 (2005-2009); 3 rd Generation Partnership Project; Universal Mobile Telecommunications System (UMTS); Spreading and modulation (FDD) (3GPP TS 25.213 version 6.4.0 Release 6)
1033	3GPP TS 25.211 v6.6.0 (2005-09),	3GPP TS 25.211 v6.6.0 (2005-09), 3 rd Generation Partnership Project; Universal Mobile Telecommunications System (UMTS); Physical channels and mapping of transport channels onto physical channels (FDD) (3GPP TS 25.211 version 6.6.0 Release 6)
1034	Order Staying N.D. Illinois Action	<i>Evolved Wireless, LLC v. Motorola Mobility LLC</i> , Case No. 1:21-cv-00567, Dkt. 14 (N.D. Ill. Mar. 10, 2021)
1035	ITC Schedule	<i>In the Matter of Certain LTE-Compliant Cellular Communication Devices</i> , Inv. No. 337-TA-1253, Order No, 5 Setting Procedural Schedule (April 2, 2021)
1036	ITC Complaint	<i>In the Matter of Certain LTE-Compliant Cellular Communication Devices</i> , Inv. No. 337-TA-1253, Verified Complaint Under Section 337 of the Tariff Act (Feb. 2, 2021)
1037	Min	Declaration of Paul S. Min, Ph.D

1038	ITC Evolved's Claim Construction Brief	<i>In the Matter of Certain LTE-Compliant Cellular Communication Devices</i> , Inv. No. 337-TA-1253, Evolved's Opening Claim Construction Brief
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I. INTRODUCTION

Motorola Mobility LLC (“Petitioner”) petitions for *Inter Partes* Review (“IPR”) of claims 14-16 and 18-20 (“the Challenged Claims”) of U.S. Patent No. RE48,326 (“the ’326 patent”). The Challenged Claims are unpatentable as set forth in at least the references presented herein. This Petition is a substantively identical “copy” of IPR2021-00950 (“Samsung IPR”), and is filed concurrently with a motion for joinder.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8(A)(1)

Pursuant to 37 C.F.R. §42.8(a)(1), the following mandatory notices are provided as part of this Petition.

A. Real Party-In-Interest Under 37 C.F.R. §42.8(b)(1)

Motorola Mobility LLC is the real party-in-interest.

B. Related Matters Under 37 C.F.R. §42.8(b)(2)

The ’326 patent is the subject of the following pending matters, which may affect, or be affected by, a decision in this proceeding: *Evolved Wireless, LLC v. Motorola Mobility, LLC*, 1:21-cv-00567 (N.D. Ill.) (“N.D. Illinois Action”) and *In the Matter of Certain LTE-Compliant Cellular Communication Devices*, Inv. No. 337-TA-1253 (Feb. 1, 2021) (instituted) (“ITC Proceeding”). Patent Owner has also asserted the ’326 patent in *Evolved Wireless, LLC. v. Samsung Elecs. Co., Ltd.*, 2:21-cv-00033 (E.D. Tex.). On May 16, 2021, Samsung filed IPR petition,

IPR2021-00950, seeking review of the '326 patent. Patent Owner also earlier filed a lawsuit against Petitioner asserting other patents involving related subject matter. *Evolved Wireless, LLC v. Lenovo Group Ltd. et al.*, 15-cv-544 (D. Del.) (“Prior Delaware Action”). Samsung also previously requested *inter partes* review of U.S. Patent 7,809,373 patent (“the '373 Patent”), which is a parent patent in the same family as the '326 patent. *Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and ZTE (USA) Inc., v. Evolved Wireless LLC*, IPR2016-01347. Petitioner is unaware of any other pending matter that would affect, or be affected by, a decision in this proceeding.

C. Lead And Back-Up Counsel Under 37 C.F.R. §42.8(b)(3)

Petitioner provides the following designation of counsel. Petitioner consents to service by e-mail. Please send all correspondence to lead and back-up counsel at the addresses provided.

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D. Payment of Fees (37 C.F.R. § 42.15(A))

The undersigned authorizes the Office to charge the fee required for this Petition for *Inter Partes* Review to Deposit Account No. 50-3266. Any additional fees that might be due are also authorized.

III. REQUIREMENTS FOR IPR (37 C.F.R §§42.101 AND 42.104)

A. Grounds for Standing (37 C.F.R. §42.104(a); 37 C.F.R. §§42.101(a)-(c))

Petitioner certifies that the '326 patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR challenging the claims of the '326 patent on the grounds identified herein. Petitioner certifies that the prohibitions of 35 U.S.C. §§315 (a)-(b) are inapplicable.

B. Statement and Relief Requested (37 C.F.R. §42.104(b))

Petitioner requests review under 35 U.S.C. §311 and cancellation of the

Challenged Claims in view of the following references and grounds:

Prior Art References
R2-061135 (“Nokia”), 3d Generation Partnership Project Draft; “Intra-LTE Handover Operation”; published on or before May 3, 2006; prior art under 35 U.S.C. §§102(a).
Chinese Patent Application Publication No. CN159602A (“Hu”); filing date of September 11, 2003; publication date of March 16, 2005; prior art under 35 U.S.C. §§102(a).

Ground	Claims	Basis	Reference(s)
1	14-16 and 18-20	§ 103(a)	Nokia and Hu

IV. STATE OF THE ART

In 2005, the telecommunications industry was developing the cellular standard known as Long Term Evolution (“LTE”). (Min¶37.) Development of LTE took place within a standard-setting organization called the Third Generation Partnership Project (“3GPP”). (*Id.*) 3GPP included members from virtually every telecommunications company in the world. (*Id.*)

Within 3GPP several specification groups defined different parts of the LTE standard; the group relevant to the technology at issue here, and the ’326 patent, is Technical Specification Group Radio Access Network (“TSG RAN”). (*Id.*¶38) TSG RAN implemented standards pertaining to LTE’s radio access network, which allows user equipment (“UE”), such as a phone, to communicate with the

cellular network through a base station (*e.g.*, an “eNodeB”). (*Id.*)

Within TSG RAN were several working groups; Working Group 2 (“WG2”) was responsible for developing LTE’s “random access procedure,” which is the procedure used by mobile terminals for initially gaining access to a particular wireless base station (such as when the mobile terminal initially starts up or during a handover of the mobile terminal to a new base station). (Min¶39); ’326 patent, 4:63-67.

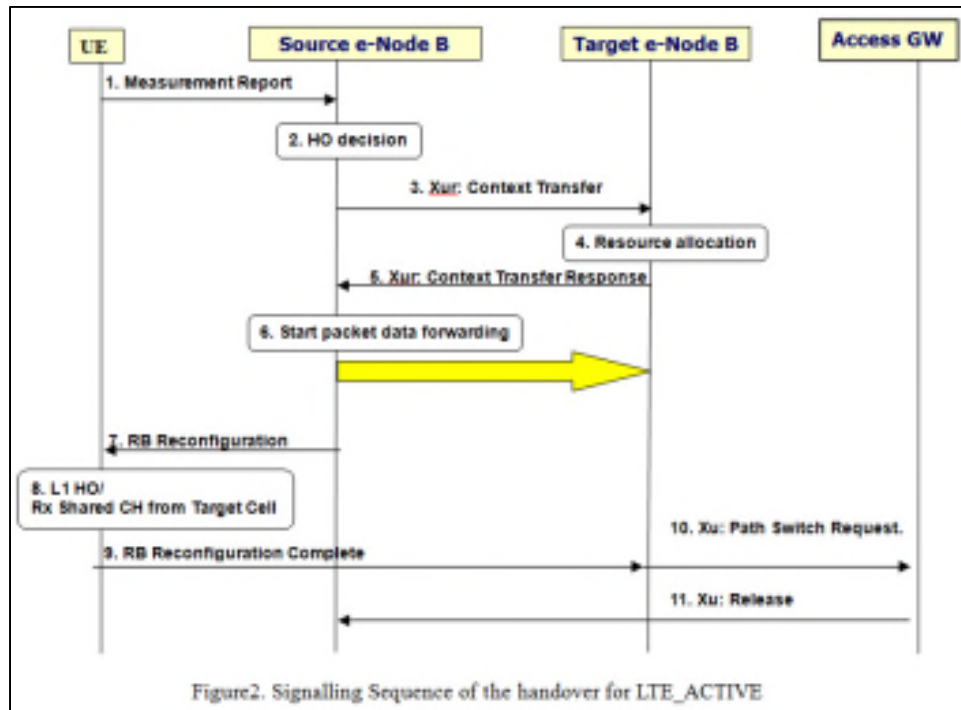
Many wireless mobile network technologies (including CDMA, WCDMA, TD-SCDMA, WiMax, and others), define such random access procedures for allowing a mobile terminal to gain access to a base station. (Min¶39). For example, in a WCDMA network, a mobile terminal initiates a “random access procedure” by randomly selecting a “preamble sequence” from a group of available preambles, and transmitting the preamble sequence to the base station on a random access channel. The ’326 patent admits that such random access procedure technology was known in the art prior to the alleged invention of the ’326 patent. (*Id.*¶40.)

In the “Background Art,” the ’326 patent expressly admits that wideband code-division multiple-access (WCDMA) (’326 patent, 1:50-52), radio interface protocols (*id.*, 1:64-66, FIG.2.), and the 3GPP (*id.*, 1:66-2:1) were all known in the prior art. The ’326 patent further admits that (i) the use of a Random Access

Channel (RACH) in WCDMA (*id.*, 2:58-59), including for transfer data in the uplink direction (*id.*, 2:60-64), (ii) the use of a Physical Random Access Channel (PRACH) in WCDMA wherein the RACH is mapped to the PRACH (*id.*, 2:66-67), and (iii) that the PRACH of WCDMA is divided into a preamble part and a message part (*id.*, 3:4-6), were likewise all known in the prior art. The '326 patent also admits that it was known in the prior art that the PRACH was transmitted in the uplink direction and there was a preamble transmitted on the PRACH. (*id.*, 3:6-11.) Lastly, the '326 patent admits that it was known in the prior art that the RACH channel is used for transmitting an initial control message, and that when the mobile terminal moves from a source cell to a target cell in a handover, the mobile terminal uses a RACH to transmit a cell update message to the target cell, and the mobile terminal uses the RACH for an uplink time synchronization with the target cell and for an uplink resource allocation. (*id.*, 5:18-27; Min¶43).

In addition, 3GPP working group documents show that, prior to the claimed priority date of the '326 patent, 3GPP and its working groups were specifically aware that the standards being defined by LTE would not use dedicated channels, but would only be using shared channels. (Min¶44; R2-051758) For example, on October 10-14, 2005, WG2 and WG3 held meetings in Cannes, France, where it was confirmed that WG2 had agreed only shared channels will be used in LTE. (Min¶45; R2-051760.) Specifically, at this meeting, WG2 and WG3 discussed the

handover procedure shown below. (Min¶45; R3-051106.)



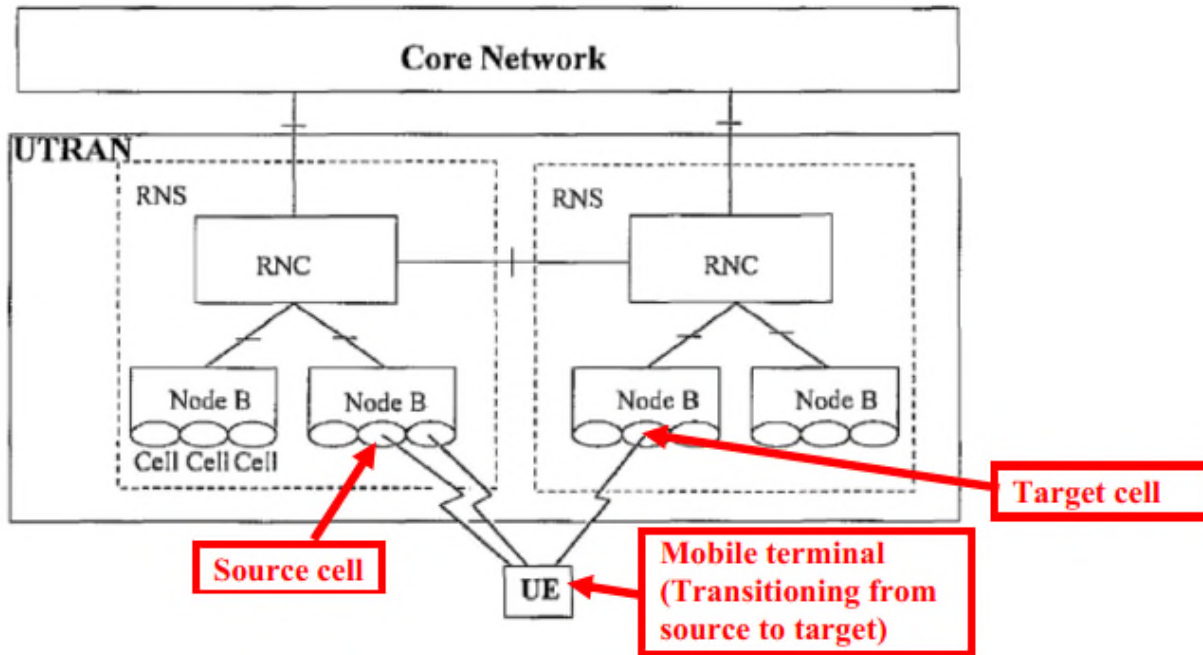
It was known in the prior art 3GPP was considering an LTE handover procedure that included: (i) the UE sending some form of a measurement report to the source base station (step 1, “Measurement Report”), (ii) the source base station determining that a handover should occur to the target base station (step 2, “HO Decision”), (iii) the source base station contacting the target base station to initiate a transfer (step 3, “Xur: Context Transfer”), (iv) the target base station creating a resource allocation and sending that resource allocation back to the source base station (steps 4 (“Resource Allocation”) and 5 (“Xur Transfer Response”), (v) the source base station then sending the resource allocation from the target base station to the UE (step 7, “RB Reconfiguration”), (vi) the UE then performing a handover

with the target base station on a shared channel (step 8, “L1 HO / Rx Shared CH from Target Cell”), and (vii) the UE sending a handover complete message to the target base station (step 9, “RB Reconfiguration Complete”). (Min¶46; R3-051106.)

V. THE '326 PATENT

A. Summary

The '326 patent is a broadening reissue of U.S. Patent No. 8,412,201 (“the '201 patent”). It describes a method for performing a random access procedure during handover of a mobile terminal from a serving base station to a target base station. *See* '326 patent, Abstract. FIG.1 describes a network environment in which user equipment (UE) (e.g., a mobile terminal/station) transitions from a source to a target cell. *Id.* at 1:42-63.



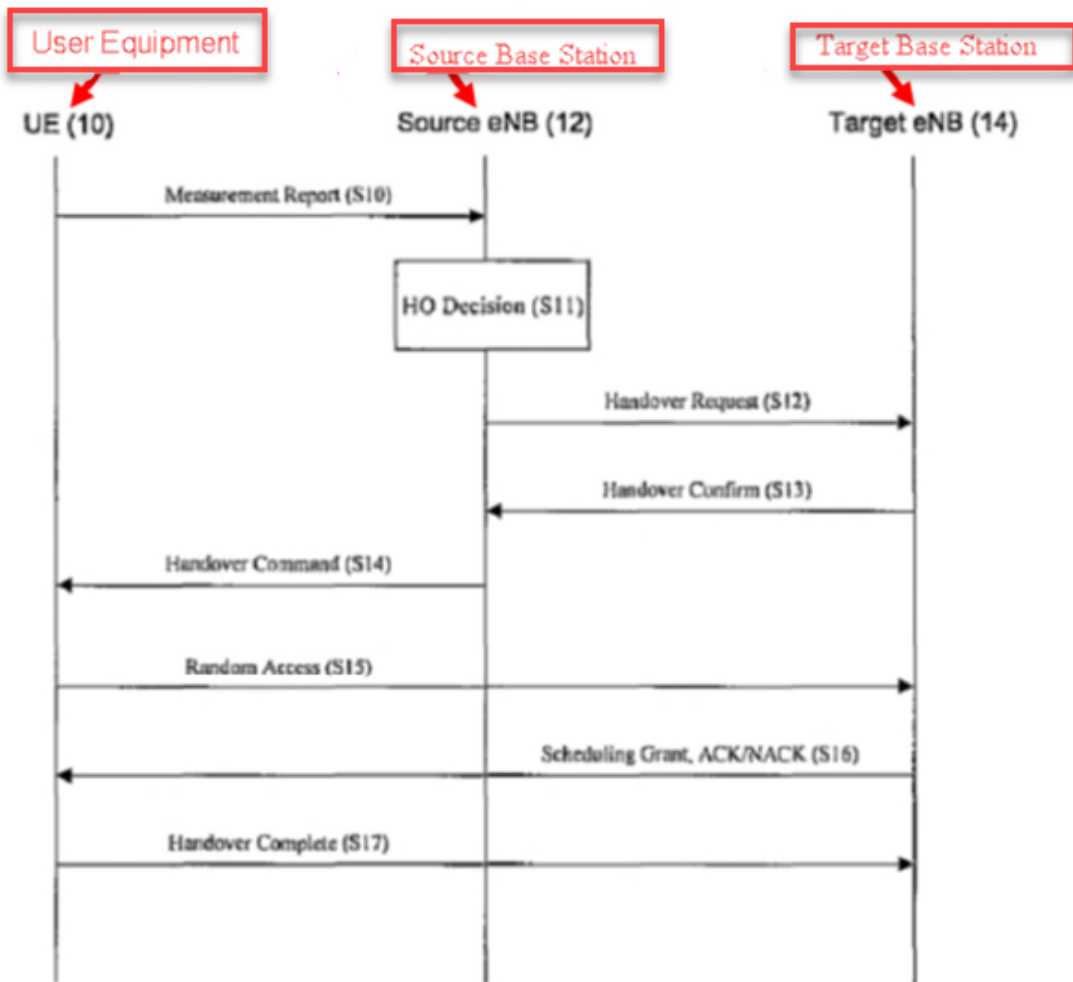
'326 patent, Detail of FIG.1 (annotated)

As described therein, “when the mobile terminal moves from a source cell to a target cell, the mobile terminal uses a RACH [random access channel] to transmit a cell update message to the target cell.” *Id.* at 6:4-6. In order to access the RACH, a mobile terminal selects a “preamble,” (which is used to synchronize transmission timing between two wirelessly connecting devices, (Min¶48)) at random from a list of available preambles, and sends the preamble to the base station on the selected RACH. *See id.* at 3:14-20; (Min¶48).

However, when two mobile terminals select the same preamble and transmit at the same time, a “collision” can occur, leading one of the terminals to start the process over. *See id.* at 5:24-27. Thus, during a handover, “the [cell update] message transmission may be delayed, and a handover processing time is

increased because of the possibility of RACH collision.” *Id.* at 5:24-27.

The ’326 patent describes a method for performing a handover that purportedly avoids collisions in connection with FIG.9:



’326 patent, Detail of FIG.9 (annotated)

At S10, a UE/terminal 10 transmits a measurement report to source eNB 12 reflecting measured downlink physical channel measurements, to allow source eNB 12 to determine whether to initiate a handover of UE/terminal 10 from a current cell to another other cell, or whether to keep the UE in current cell (S11).

Id. at 6:26-38. If a transition is appropriate, source eNB “transmit[s] a handover request message to the target eNB (14) in order to request a handover for the UE to the target eNB (14) (S12), which confirms if handover is allowed (S13).” *Id.* at 6:45-50. Upon receiving such confirmation, the source eNB “transmit[s] a Handover Command message to the UE (10)” including “necessary information . . . for establishing the radio connection to the target eNB” such as “the preamble which is to be used in the access procedure to the target eNB.” *Id.* at 7:20-28. The ’326 patent states that “the UE may transmit [the] preamble” received “from the target eNB” to avoid a “RACH collision” with other terminals sending the same preamble at the same time. *Id.* at 6:64-7:8.

B. Prosecution History

The ’326 patent issued from U.S. Application No. 15 /804,824, which was filed November 6, 2017. *See* Ex.1024, 11/6/17 Transmittal of Reissue Application. The ’326 patent is a broadening reissue from the ’201 patent. *Id.* On April 6, 2020, the examiner rejected claims 44-51 due to a defective reissue declaration under 35 U.S.C. § 251. *See* Ex.1029, 4/6/2020 Non-Final Rejection. After an updated declaration was submitted, the examiner allowed the ’326 patent to issue. *See* Ex.1030, 7/17/20 Notice of Allowance.

C. Priority Date

The application that led to the ’326 patent was filed on November 6, 2017

(“’326 patent filing date”). The ’326 patent claims the priority to U.S. Provisional Application No. 60/732,080 (“Provisional Application”), filed October 31, 2005, and to Korean patent application 10-2006-0063135, filed on July 5, 2006 (“Korean application”). Accordingly, the earliest possible priority date for the ’326 patent is October 31, 2005 (“provisional filing date”). However, as explained below, the challenged claims of the ’326 patent are not entitled to claim priority to the provisional filing date. Instead, the earliest possible priority date that the ’326 patent is entitled to for purposes of this Petition is July 5, 2006, the filing date of the Korean application.¹

The challenged claims of the ’326 patent are not entitled to claim priority to the provisional filing date because the Provisional Application does not provide support for, at least, claims 14-16 and 18-20, which recite and/or require, in relevant part: “receive a handover command message from a source base station...” “handover command message,” “wherein the handover command message includes information related to a preamble...,” “handover confirm

¹ Petitioner reserves the right to challenge the propriety of this priority claim as well should the issue arise in this or other proceedings. All references in the present Petition qualify as prior art even if the ’326 patent is entitled to priority to the filing date of the Korean application.

message,” and “transmit[ing] a handover complete message to the target base station.” ’326 patent, claims 14-16, 18-20. The Provisional Application does not disclose any of these limitations. (Min¶53.)

The Provisional Application consists of a cover sheet atop a collection of documents. *See* Ex.1005. Only one of these documents, titled “RACH for LTE,” bears any relevance to the challenged claims (the other documents do not relate to the features embodied in the challenged claims). (Min¶54.)

Specifically, in the document entitled “RACH for LTE,” section 2.3 (“CELL Change for LTE”) discusses three proposed procedures for performing a cell change. (Min¶55; Provisional Application 16-18.) None of the three procedures describes or suggests the claimed feature “receive a handover command message from a source base station which has determined that a handover should occur to a target base station,” (Min¶55; Provisional Application 16-18.) All of the proposed procedures in the Provisional Application involve a very different communication protocol from what is claimed in the ’326 patent: either the UE first reaches out directly to the Target NodeB (Proposed procedure 1), or the Target NodeB communicates directly with the UE bypassing the Serving NodeB (source node) to establish a dedicated connection (Proposed procedures 2 and 3). (Min¶55; Provisional Application, 16-18.) Thus, none of the proposed procedures show the UE receiving any message or communication from the source node after it is has

been determined that a handover should occur. (Min¶55.) Rather, in the three proposals, any messages or communications to the UE after it is has been determined a handover should occur are directly from the target node; the source node is no longer involved. (*Id.*)

In each of the proposed procedures, the UE sends to the source node a measurement report. (Min¶56.) After the source node receives that report, either (i) the UE performs cell access with the target node by sending information to the target node on the RACH (procedure 1); (ii) the UE sends a resource request to the source node, which forwards the request to the target node, which in turn issues a resource grant directly to the UE (procedure 2); or (iii) the source node sends some information on handover to the target node, which then sends an uplink (UL) map directly to the UE. (*Id.*) Accordingly, there is no disclosure of any message, much less a handover command message, that is “receive[d] ... from a source base station which has determined that a handover should occur.” (*Id.*)

The Provisional Application includes no disclosure of a “handover command message” at all. (Min¶57.) None of the messages sent from the target node (or even the source node) to the UE are referred to as a handover command message, or include an explicit reference to a handover command. (Min¶57; Provisional Application at 16-18.)

While the Provisional Application below Proposed procedure 3 that states,

“[a]lternatively, target NB could send UE a RACH preamble resource e.g. signature via source NB,” modifying the proposed procedures to include the RACH preamble resource e.g. signature does not result in a “handover command message,” much less one that is sent from the source base station to the UE. (Min¶58.)

First, a preamble, on its own, would not be considered a “handover command message,” because a preamble itself does not instruct the UE that it needs to begin a handover procedure, nor does it even contain any information to inform a UE that it needs to start such a procedure. (Min¶59). Thus, the addition of a RACH preamble resource, e.g., signature, to any of the proposed procedures in the Provisional Application does not itself constitute a disclosure of a “handover message command.” (*Id.*)

Next, because all of the proposed procedures involve a very different communication protocol that would not require any RACH preamble as described above, a POSITA would have to make specific modifications to the proposed procedures and the communications system to allow for the ability of the “target NB [to] send [the] UE a RACH preamble resource e.g. signature via source NB.” (Min¶60). These modifications, however, are not inherent or readily discernable from the disclosure of the Provisional Application. (*Id.*)

Adding a RACH preamble resource e.g. signature does not require a

handover command message, or otherwise inform a POSITA that one should be used. (Min¶61.) Indeed, there are a number of potential ways to modify the proposed procedures to require use of a RACH preamble resource in accordance with proposed alternative that would not provide for or involve a “handover command message” being sent “by the source base station.” (Min¶¶61-63).

The Provisional Application also fails to describe or suggest “the handover command message includes information related to a preamble for the terminal previously defined in a handover confirm message sent from the target base station to the source base station.” (Min¶64.) As explained above, the Provisional Application does not disclose a “handover command message.” However, assuming *arguedo* that the disclosure of a the RACH preamble resource e.g. signature were a disclosure of a handover commanded message to a POSITA, there is no disclosure that such a message would include “information related to a preamble.” (*Id.*) A POSITA would understand “the RACH preamble resource e.g. signature” disclosure to consistute a preamble. (*Id.*) The terms “preamble,” “preamble resource,” and “signature” are all used by POSITA’s interchangeably in this field to describe the actual signal used to synchronize transmission timing between entities in the wireless system, and they have a specific meaning. (*Id.*) On the other hand, a POSITA would understand information related to a preamble to encompass many things besides the preamble, but not the preamble itself, such

as information that is later used to generate the preamble, or even information that is used to tell the UE where to send the preamble. (*Id.*) A POSITA would not consider or understand “the RACH preamble resource e.g. signature” to be information “related” to a preamble because it is merely the preamble itself. (*Id.*)

This understanding of a POSITA that a preamble is different than information related to a preamble is confirmed by how the Patent Owner treats the two terms in its own claims in the '326 patent. (Min¶65.) Specifically, claims 1, 7, 10, and 12 of the '326 patent all require that “the handover command message *includes preamble information* for the random access procedure,” while the Challenged Claims require “the handover command message *includes information related to a preamble.*” Compare '326 Patent: claims 1, 7, 10, 12 and claims 14, 18; Min¶65. When the inventors wanted to claim a “preamble,” they did so explicitly. . Therefore, based on how the Challenged Claims are drafted in comparison with how Patent Owner drafted other claims in the very same patent, “information related to a preamble” must be something different from the preamble itself. (*Id.*)

Because a POSITA would only understand “the RACH preamble resource e.g. signature” to refer to a preamble itself, and not information related to a preamble, and because there is no other potential disclosure in the Provisional Application of any handover command message containing any other information

regarding a preamble, the Provisional Application does not disclose “the handover command message includes information related to a preamble.” (Min¶66.)

The Provisional Application also fails to describe or suggest the “handover confirm message” for similar reasons as set forth above with respect to the “handover command message.” (Min¶67.) None of the proposed procedures in the Provisional Application show or describe any transmission going from the target node to the source node—which is what the claims require of the “handover confirm message.” (*Id.*) Also, while the additional sentence indicates that the preamble would be sent to the UE from the target node via the source node, as described above, that disclosure only provides that the preamble itself is sent from the target node to the source node. (*Id.*) That sentence provides no explanation or disclosure of a “handover confirm message” being sent from the target node to the source node. (*Id.*) In fact, even assuming that one of the procedures were modified in accordance with the sentence regarding the RACH preamble resource, there is no need for a “handover confirm message” from the target base station to the source base station in order to implement such a system. (*Id.*) Accordingly, the Provisional Application does not disclose the limitation, “a handover confirm message sent from the target base station to the source base station.”

Finally, the Provisional Application fails to describe or suggest the use of, “transmit[ing] a handover complete message to the target base station.” (Min¶68.)

In all of the proposed procedures, the last step in each procedure is the UE sending some form of information to the target node. (*Id.*) However, this is also the *only* transmission in which the proposed procedures show the UE sending any information to the target node. (*Id.*) The challenged claims, on the other hand, require at least *two* transmissions from the UE to the target base station, (1) the random access procedure with the target base station, and then (2) a handover complete message to the target base station. *See e.g.*, '326 patent claim 18. Even if the Provisional Application is found to disclose a random access procedure with the target base station, all the provisional discloses is that the UE performs a single transmission with the target base station to connect with the target base station using the information related to the preamble within that single step of the UE sending some form of information to the target node. (Min¶68.) There is no disclosure in the Provisional Application of a second transmission as required by the claims—that is “transmit[ing] a handover complete message to the target base station.” (*Id.*)

For the same reasons as articulated above, claim 14 with identical or substantially similar limitations, and claims 15-16 and 19-20 (which depend on claims 14 and 18), likewise does not have support in the Provisional Application. (Min¶69.)

Accordingly, the earliest possible priority date that the '326 patent is entitled

to for purposes of this Petition is July 5, 2006.

D. Relationship to the '373 Patent

The '326 Patent is in the same patent family and shares the same specification as the '373 Patent. Samsung previously petitioned for an *inter partes* review the of '373 Patent, which was not instituted. *Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and ZTE (USA) Inc., v. Evolved Wireless LLC*, IPR2016-01347, Paper 8, Decision Denying Institution, at 2 (PTAB Dec. 19, 2016) (“Decision Denying '373 Institution”). However, the prior art references that were used in the '373 patent petition are completely different from the references in the present Petition. *Compare Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and ZTE (USA) Inc., v. Evolved Wireless LLC*, IPR2016-01347, Paper 1 at 3-4, 5-11 *with supra* §VII.

Importantly, the PTAB found that the prior art references that were used in the '373 patent petition only disclosed a contention free communication system that used dedicated channels to send communications, and not the use of dedicated preambles on a shared channel to send communications as is the case here. *Compare* Decision Denying '373 Institution at 14-16 *with infra* §IX.A. However, as discussed at length herein, both references presented in this petition involve a contention free communication system that uses a shared random access channel to send communications, and Hu specifically discloses one way that the

communications are contention free is with the use of dedicated preambles for each UE using the same shared random access channel. (Min¶71; *infra* §IX.A). This Petition presents different grounds and arguments of invalidity from the grounds and arguments presented in the '373 patent petition such that the PTAB's prior decision not to institute review of the '373 patent has no bearing on the merits of the present Petition.

VI. PERSON OF ORDINARY SKILL IN THE ART

The person of ordinary skill in the art of the subject matter of the '326 Patent would have had a master's degree in electrical engineering with 2-3 years of experience in cellular communication systems, and would have been aware of the efforts of the 3GPP and its various groups. (Min¶36.) Alternatively, that person would have had a Ph.D. in electrical engineering with the same familiarity with the work of the 3GPP and its various groups. (*Id.*)

VII. CLAIM CONSTRUCTION (37 C.F.R. § 42.104(B)(3))

The challenged claims "shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by a POSITA and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b). The Board thus construes claims consistent with *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). 37

C.F.R. § 42.100(b). Claims should only be construed to the extent necessary to resolve a controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).² Under this standard, the Board should construe the following claim features as proposed below.

A. Handover

The term “handover” is well known to a POSITA and needs no construction under *Phillips*. (Min¶82.)

In the Prior Delaware Action, Patent Owner proposed that “handover” be

² Any interpretations of the Challenged Claims set forth by Petitioner herein are for the sole purpose of determining whether the prior art anticipates or renders the Challenged Claims obvious. Petitioner reserves all rights to contend that one or more Challenged Claims are invalid for reasons out of scope for IPR, including but not limited to the failure to claim patentable subject matter under 35 U.S.C. §101, and lack of definiteness or lack of written description under 35 U.S.C. §112. Such issues are no bar to IPR in appropriate circumstances; the Board may set them aside when reviewing claims under 35 U.S.C. §§102 and 103. *Samsung Elecs. Am., Inc. v. Prisia Eng'g Corp.*, 948 F.3d 1342, 1355 (Fed. Cir. 2020); *Zillow Grp., Inc. v. Int'l Bus. Machines Corp.*, No. IPR2020-01655, 2021 WL 973321, at *5 (P.T.A.B. Mar. 15, 2021).

construed to mean “a process to transfer a telecommunication link by establishing radio connection with the target base station after radio connection with the source base station has ceased.” Ex.1010, exhibit A, p.7. To the extent Patent Owner advocates such a construction here, the Board should reject it on multiple grounds.

Such a construction would not impact the applicability of the prior art asserted herein against the Challenged claims. Even under this potential construction the prior art references in this Petition disclose a “handover.” (Min¶83); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Also, Patent Owner’s construction is unsupported by the intrinsic evidence. (Min¶84.) More particularly, in the Prior Delaware Action, Patent Owner argued that the ’326 patent family is directed to “hard” or “break-before-make” handovers, where the connection with the source base station is terminated before the connection with the target base station is established. Ex.1010, 12-13. A POSITA would have understood that multiple types of handovers were known in the art, and that some types of handover (*e.g.*, soft handovers) do not involve ceasing the radio connection with the source base station before establishing the radio link with the target base station. (Min¶85.) Either of these types of handovers are consistent with the scope of the invention as claimed: the Challenged Claims do not include language indicating that a handover must involve establishing a radio connection

after a previous one has ceased. (*Id.*) Indeed, the claims are without language imparting temporal limitations that limit the handover to a hard handover. (*Id.*)

Further, the specification and prosecution history of the '679 patent include no express definition or disavowal of claim scope that supports limiting the term "handover" in the way proposed by Patent Owner. (Min¶86.) *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 796-97 (Fed. Cir. 2019). When describing handovers using, *e.g.*, Fig.9, the '326 patent neither describes or depicts when the connection between the mobile terminal and the source base station "ceases." (Min¶86.)

In the ITC Proceeding, the parties are not disputing the plain and ordinary meaning of "handover." Ex. 1038 at 13.

B. Target base station

For the purposes of the present proceeding, the term "target base station" likewise is well known to a POSITA and needs no construction in this proceeding under *Phillips*. (Min¶87.)

In the Prior Delaware Action, Patent Owner proposed that "target base station" be construed to mean "the base station to which the source base station determines the mobile terminal will be transferred." Ex.1010, exhibit A, p.7. To the extent Patent Owner advocates such a construction here, the Board should reject it on multiple grounds.

Such a construction would not impact the applicability of the prior art asserted herein against the Challenged Claims. Even under the potential construction from Patent Owner, the prior art references discussed herein disclose a “target base station.” (Min¶88); *Nidec*, 868 at 1017.

Also, Patent Owner’s construction is substantively incorrect. Multiple types of handovers were known in the art, and various types of handover did not involve or require the source base station determining the target base station. (Min¶89.) Thus, a POSITA would have understood the term “target base station” to encompass base stations involved in a handover that were not determined by the source base station. *Id.*

In the ITC Proceeding, the parties have agreed that “target base station” means “the base station to which the mobile terminal will be transferred.” Ex. 1038 at 13.

VIII. PRIOR ART REFERENCES

A. Nokia submission (Ex.1003)

“Nokia” refers to R2-061135, a 3GPP draft entitled “Intra-LTE Handover Operation” and published on or before May 3, 2006.

While Nokia was cited to the Patent Office, it was merely one of hundreds of such references, and the examiner did not substantively discuss or apply it in a rejection of any pending claim of the application that issued as the ’326 patent (and

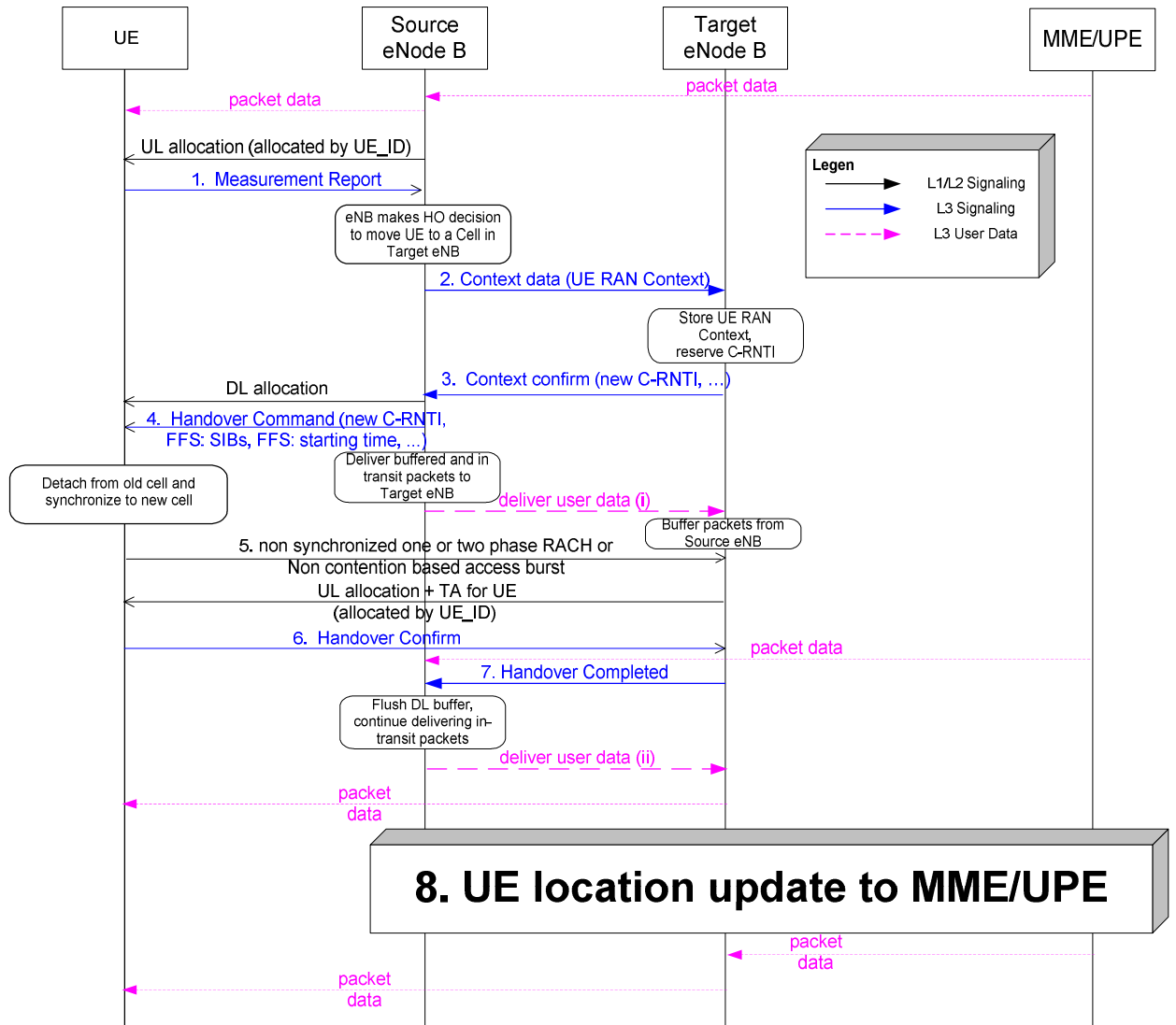
thus the fact that it was so disclosed should not bear on the institution decision).

Digital Check Corp. d/b/a ST Imaging v. E-Imagedata Corp., IPR2017-00178,

Paper 6 at 12-13 (April 25, 2017).

Under pre-AIA 35 U.S.C. § 102(a), Nokia is prior art to every claim because its publication date (on or before May 3, 2006) predates the '326 patent's priority date (July 5, 2006). Nokia is a "printed publication" under § 102(a) for the reasons set forth in section VIII.C, *supra*.

Nokia describes a method for an "Intra-LTE handover operation." Nokia at 1. Nokia "present[s] [a] basic handover scenario" in Fig.1.



Id., Fig.1.

As depicted above, the first step is that the User Equipment (“UE”) is triggered to send a Measurement Report (step 1, “Measurement Report”). *Id.* at 3. The source base station (“source eNode B”), based on the measurement report, decides to hand off the UE to the target base station (“target eNode B”) (“eNB makes HO decision ...”). It then passes relevant information (“context data”) to the target base station (step 2, “Context data (UE RAN Context)”). *Id.* The target

base station responds by providing updated information and other parameters (step 3, “Context confirm”) to the source base station. *Id.* This information is passed along to the UE in the form of a “Handover Command” (step 4). *Id.* The UE then synchronizes with the target cell and acquires a timing advance (step 5 first arrow) via a “normal one or two phase RACH procedure or Non contention based access burst.” *Id.* The network then responds with a UL allocation and timing advance (step 5 second arrow), which the UE uses to send a “Handover Confirm” message to the target cell (step 6). *Id.* This completes the handover procedure for the UE, though the network generally needs to acknowledge receipt of the handover confirm message (step 6, “Handover Confirm”). *Id.*

The target cell then informs the source cell that the handover was successful (step 7, “Handover Completed”), which allows the source cell to clear already forwarded data from its buffers (“Flush DL Buffer”). *Id.* The UE location information is then updated to allow data packets to be forwarded directly to the target cell (data transfers below step 8). *Id.*

B. Hu (Ex.1004)

“Hu” refers to Chinese Patent Application Publication No. CN159602A, with a filing date of September 11, 2003 and a publication date of March 16, 2005. Hu is provided as Exhibit 1004 with a certified English translation.

While Hu was also cited to the Patent Office, it was again one of hundreds

of references that Patent Owner cited to the Patent Office, and the examiner did not substantively discuss or apply it in a rejection of any pending claim of the application that issued as the '326 patent.

Under pre-AIA 35 U.S.C. § 102(a), Hu is prior art to every claim because its filing date (September 11, 2003) predates even the '326 patent's claimed priority date (October 31, 2005) and further predates the '326 patent's actual priority date (July 5, 2006).

Hu is titled "Method of Accessing Target Base Station by Mobile Terminals." It describes "a method of accessing the target base station by a mobile terminal switching between base stations." Hu, Abstract. Hu explains that one purpose of Hu's invention is to enhance the access success rate of handover users. *Id.* at 6-8. Hu's invention is performed in a mobile communications system, and Hu teaches that "handover is one of the distinctive features of mobile communications." *Id.* at 1. While Hu used a TD-SCDMA system as the primary example –which is an example of a mobile communications system– a POSITA would have understood that Hu's teachings are not limited to a TD-SCDMA system. (Min¶78; Hu at 1.)

Hu taught a mobile terminal, a source base station, and a target base station, and a handover process that transfers the mobile terminal's connection with the source base station to a target base station. (Min¶79; Hu at 5, 8-9.) Hu also taught

the transmission of a handover request from the source base station to the target base station. *Id.*

In the handover operation described in Hu, the target base station designates a “random access resource” for the mobile terminal that is going through the handover process. (Min¶80; Hu at 6.) As described in Hu, a random access resource is “an uplink synchronization code.” (Min¶80; Hu at 5.) The target base station selects one random access resource for one specific mobile terminal that is going through the handover process. (Min¶80; Hu at 2, 6, 9, 13.) The mobile terminal uses the access resource designated by the target base station to access the base station. (Min¶80; Hu at 6, 9, 11.) That selected and designated access resource is reserved for, dedicated to, and used only for one particular terminal. (Min¶80; *citing* Hu at 6-9, 11.)

C. All References are Prior Art

Nokia is a “printed publication.” A document qualifies as a printed publication if skilled artisans exercising reasonable diligence could have located it. *See Kyocera Wireless Corp. v. U.S. Int’l Trade Comm’n*, 545 F.3d 1340, 1350-51 (Fed. Cir. 2008); *ZTE Corp. v. IPR Licensing, Inc.*, IPR2014-00525, Paper 19 at 14-17 (Sept. 17, 2014).

Nokia qualifies as a printed publication prior art under 35 U.S.C. § 102(a) before the ’326 patent’s priority date for two independent reasons. First, members

of the public could have accessed Nokia before the '326 patent's priority date via 3GPP's public website without any restrictions. (Min¶¶153-157). The reference was uploaded to 3GPP's website on 2006/05/03, and therefore, Nokia has been available to members of the public on 3GPP's public website since at least May 3, 2006, and remains available there today. (Min¶¶154-157). Second, a POSITA also could have received Nokia before the '326 patent's priority date by subscribing to WG2's e-mail exploder list (Min¶¶158-165). Any interested member of the public could have subscribed to this list and received Nokia because this list was open to the public, and therefore, Nokia was available to interested members of the public at least as of May 3, 2006. (*Id.* ¶¶158-165). Finally, Nokia does not bear any confidentiality legend, password protection, or other indicia that might suggest a restriction on its public dissemination. (*Id.* ¶¶166).

Hu is prior art under at least 35 U.S.C. §§ 102(a) and/or (b). Hu is a Chinese Patent application that was filed September 11, 2003, which is more than one year before the '326 priority date, and it was published on March 16, 2005, before the '326 priority date.

IX. GROUNDS OF REJECTION (37 C.F.R. § 42.104(B)(1)-(2), (4))

Petitioner requests that the Board review and cancel claims 14-16 and 18-20 of the '326 patent on the following ground:

Ground	Claims	Basis	Reference(s)
1	14-16 and 18-	§ 103(a)	Nokia Submission in view of the

	20	knowledge of a POSITA or/and Hu
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A. Ground 1: Claims 14-16 and 18-20 are invalid based on Nokia in view of the knowledge of a POSITA and/or Hu

Nokia in view of the knowledge of a POSITA and/or Hu taught every feature of claims 14-16 and 18-20 for the reasons explained in the following subsections. Nokia taught most of the claimed features. Complementing these teachings, Hu expressly taught, in the context of a random access procedure as part of a handover from a source base station to a target base station as is disclosed in Nokia, that the identifier information received by a specific UE for communications with the target base station is a preamble for use on a shared random access channel, and that this received preamble information is a dedicated preamble used by the specific UE to establish a connection with the target base station during a base station handover operation.

1. Motivation to Combine Nokia and Hu

For at least the reasons stated below and in the attached Min declaration, it would have been obvious for a POSITA to combine Nokia with Hu (Min ¶¶90-99.)

Nokia, Hu, and the '326 patent are all directed to the same field of endeavor and the same subject matter within that field: performing a handover in a mobile communication system. (*Id.* ¶ 90.) Nokia and Hu in particular were created by two well-known manufacturers of cellular devices who were active in the development

of LTE and related technological standards for wireless communication (Nokia and Huawei, respectively) –which is the same technological context as the '326 patent inventions– and thus a POSITA would have referenced such disclosures in the context of implementing such telecommunication systems (*Id.*)

Moreover, Nokia, Hu, and the '326 patent are all directed to addressing the same problem: how to implement a handover procedure in a wireless communication system with multiple base stations that improves speed and success rate. '326 patent, 1:30-35; Hu at Abstract; Nokia at 1-2; Min¶91.)

Nokia discloses nearly all the limitations of the '326 patent claims. Nokia further discloses, in the context of the disclosed handover operations, performing a *contention free* (discussed below) RACH procedure (step 5), wherein the identifier information necessary for the UE to communicate with the target base station during the RACH procedure was previously transmitted in a message from the source base station to the UE (*e.g.*, Handover Command, Step 4). (Min¶92.) A POSITA would have found it advantageous to further incorporate Hu's specific teachings regarding the use of random access resources (*i.e.*, a dedicated preamble) as the particular identifier information transmitted by the source base station to the UE for such a contention free RACH procedure in view of the disclosure of Nokia and the knowledge of a POSITA. (Min¶93.)

Nokia discloses, in the context of the overall handover procedure wherein

the UE is “handed over” from a source base station to a target base station (*see generally* Steps 1-7), a conventional RACH procedure for connecting the UE with the target base station (step 5). (Nokia at 2; Min¶¶94). A POSITA would have understood that the conventional RACH procedure referenced therein would necessarily have involved the use of a shared channel for the communications that take place between the UE and the target base station, because (consistent with the operation disclosed in Nokia) by the October 2005 WG2 Cannes meeting, it was confirmed that WG2 had agreed that only shared channels would be used in LTE for such communications, and the RACH channel would be used for resource requests—handovers—and not data. (Min¶¶94-95.) Thus, a POSITA would have recognized that if only the shared RACH channel was being used for handover communications between the UE and the target base station, contentions between the communications would have to be avoided. (*Id.*)

As described in the State of the Art, many methods of performing a RACH procedure, including in particular the use of a preamble or preamble information in connection with that procedure, would have been routine, common-sense design choices for the skilled artisan, who would have recognized that those features are necessary to implement working LTE devices. (Min¶¶94-96.) A POSITA would recognize that the specific implementation of such a conventional, contention free RACH procedure as referenced in Nokia could be implemented using any of these

methods known to a POSITA. (*Id.* ¶).

A POSITA would have further recognized that one conventional way used in the art to implement such communications over a shared channel (*i.e.*, the RACH) would be to have each UE use its own different preamble as an identifier while using the RACH. (Min ¶95.) A POSITA would have also recognized that using conventional RACH procedures wherein each UE is assigned and uses its own different preamble would make the handover process quicker and more efficient by reducing contention between the other mobile stations on the RACH. (*Id.*)

Hu discloses the full implementation level details of how such a conventional, contention free RACH procedure using allocated resources in the form of a dedicated code resource (*i.e.*, a dedicated preamble) is performed. Accordingly, a POSITA would have logically and predictably consulted a reference such as Hu, which describes in more detail the implementation of a conventional, contention free RACH procedure using dedicated code resources (*i.e.*, a dedicated preamble) in the context of an overall handover operation in a system using shared channels. (Min ¶97; Hu at 2, 6, 9, 11, 13.)³. Moreover, given

³ A POSITA would have understood that Hu's handover procedure could readily apply to, and be used in, an LTE mobile communication system like the one described in the Nokia Submission that access resources can be allocated according

the well understood need to address the potential for contentions between communications in view of the use of shared channels (the use of which is disclosed in both Nokia and Hu), a POSITA would have particularly consulted the teachings of Hu with respect to Hu's use of a preamble provided by the target base station for one specific mobile terminal to enable contention free communications over a shared channel, and further that is reserved for, dedicated to, and used only for one particular terminal. (Min¶98.) Thus, a POSITA would have understood that Hu's teachings and disclosures could be implemented in Nokia's process to create a handover operation where contentions would be limited with the use of a dedicated preamble, and the handover operation would proceed more quickly.

(Id.)

Finally, incorporating Hu's use of a dedicated preamble (random access resource) into the RACH procedure of Nokia would have been a predictable combination. (Min¶99.) Both references describe the use of a RACH procedure in the overall process of an improved handover operation performed in a wireless network, and both references describe the RACH procedure being contention free; the use of a dedicated preamble (*i.e.*, the random access resources) as disclosed in

to code word, time, frequency, space, or any combination thereof. (Min¶97, citing Hu at 8.)

Hu could readily be incorporated into the handover command and contention free RACH procedure of Nokia. (*Id.*)

2. Independent claim 18 is invalid.

- (a) **“A mobile terminal to transmit uplink data in a wireless communication system, the mobile terminal comprising:”**

Nokia taught this limitation. In the procedure taught by Nokia, the network sends the UE a UL allocation and timing advance, which the UE then uses to send a “Handover Confirm” message to the target base station. (Min¶102; Nokia at 2.)

The UE’s transmission of the Handover Confirm message to the target base station is the mobile terminal transmitting uplink data. (*Id.*) Also, after the UE sends the Handover Confirm message, this completes the handover procedure for the UE.

(*Id.*) A POSITA would understand that the handover procedure described in Nokia is being performed so that the UE can begin transmitting uplink data to the new target base station after the handover. (*Id.*) Thus, Nokia teaches a mobile terminal to transmit uplink data in a wireless communication system. (*Id.*)

- (b) **“a transceiver configured to transmit the uplink data;”**

Nokia taught this limitation. (Min¶103; Nokia at 2.) As discussed above, in the procedure taught by Nokia, the network sends the UE a UL allocation and timing advance, which the UE then uses to send a “Handover Confirm” message to the target base station. (*Id.*) In the second step, the UE is transmitting uplink data.

(*Id.*) A POSITA would have readily known and understood at the time of the alleged invention that a communication system using the protocol described in Nokia and including one or more mobile terminals (“UE”) would include a UE would necessarily have included a transceiver configured to transmit the uplink data because the protocol described in Nokia Submission would not work if the transceiver was not configured to transmit the uplink data. (*Id.*)

(c) **“a memory configured to store the uplink data; and”**

Nokia taught this limitation. (Min¶104;Nokia at 2.) As discussed above, in the procedure taught by Nokia, the network sends the UE a UL allocation and timing advance, which the UE then uses to send a “Handover Confirm” message to the target base station. (*Id.*) In order for the UE to use the UL allocation and timing advance to send the Handover Confirm message to the target base station, the UE must be able to store the UL allocation and timing advance information in a memory so it can be further acted on to create the Handover Confirm message. (*Id.*) As a POSITA would have recognized at the time of the alleged invention, in a communication system using the protocol described in Nokia including one or more mobile terminals (“UE”), such UEs would necessarily have included a memory configured to store the uplink data transmitted or received via the transceiver or from an external source because the protocol described in Nokia would not work—or at least would not have any practical use—if the memory was

not configured to store the uplink data transmitted or received via the transceiver or from an external source. (*Id.*)

(d) **“a processor cooperating with the transceiver and the memory, the processor configured to:”**

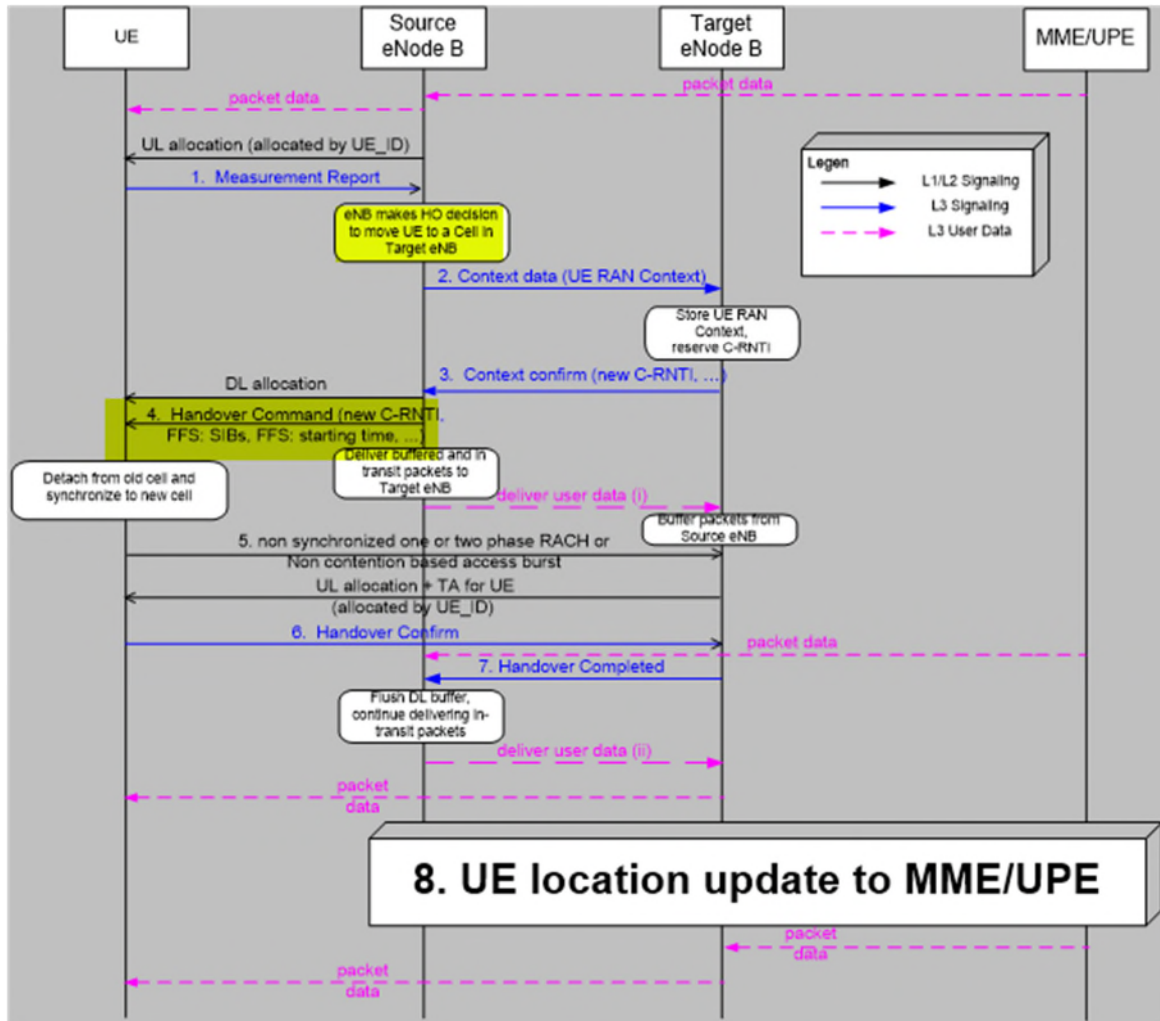
Nokia taught this limitation. (Min¶105; Nokia at 2.) As discussed above, in the procedure taught by Nokia, the network sends the UE a UL allocation and timing advance, which the UE then uses to send a “Handover Confirm” message to the target base station. (*Id.*) In order for the UE to take in and use the UL allocation and timing advance to create the Handover Confirm message that the UE will send to the target base station, the UE must have a processor that is able to process the UL allocation and timing advance information to create the Handover Confirm message. (*Id.*) Furthermore, the processor would have to work with the transceiver that received the UL allocation and timing advance and the memory storing the UL allocation and timing advance to process the UL allocation and timing advance information to create the Handover Confirm message. (*Id.*) As a POSITA would have recognized at the time of the alleged invention, in a communication system using the protocol described in Nokia including one or more UEs, such UEs would necessarily have included a processor cooperating with the transceiver and the memory to perform the other claimed steps because the protocol described in Nokia would not work if the processor cooperating with the transceiver and the memory was not able to perform the other claimed steps. (*Id.*)

- (e) **“receive a handover command message from a source base station which has determined that a handover should occur to a target base station;”**

Nokia taught this limitation. (Min¶106, *citing* Nokia at 2.)

First, Nokia describes how the “UE is triggered to send MEASUREMENT REPORT” to Source eNodeB—the source base station—and the “Source eNodeB makes decision based on MEASUREMENT REPORT and RRM information to hand off UE.” (Min¶106.) That is, the source base station determines that a handover should occur to a target base station based on the measurement report. (*Id.*)

Second, Nokia describes how after this determination is made and the Source eNodeB informs the Target eNodeB of the handover, the “UE receives HANDOVER COMMAND with necessary parameters” from the Source eNodeB. (Min¶107.) This process is also disclosed in Figure 1 of Nokia, with the relevant steps highlighted. (*Id.*)

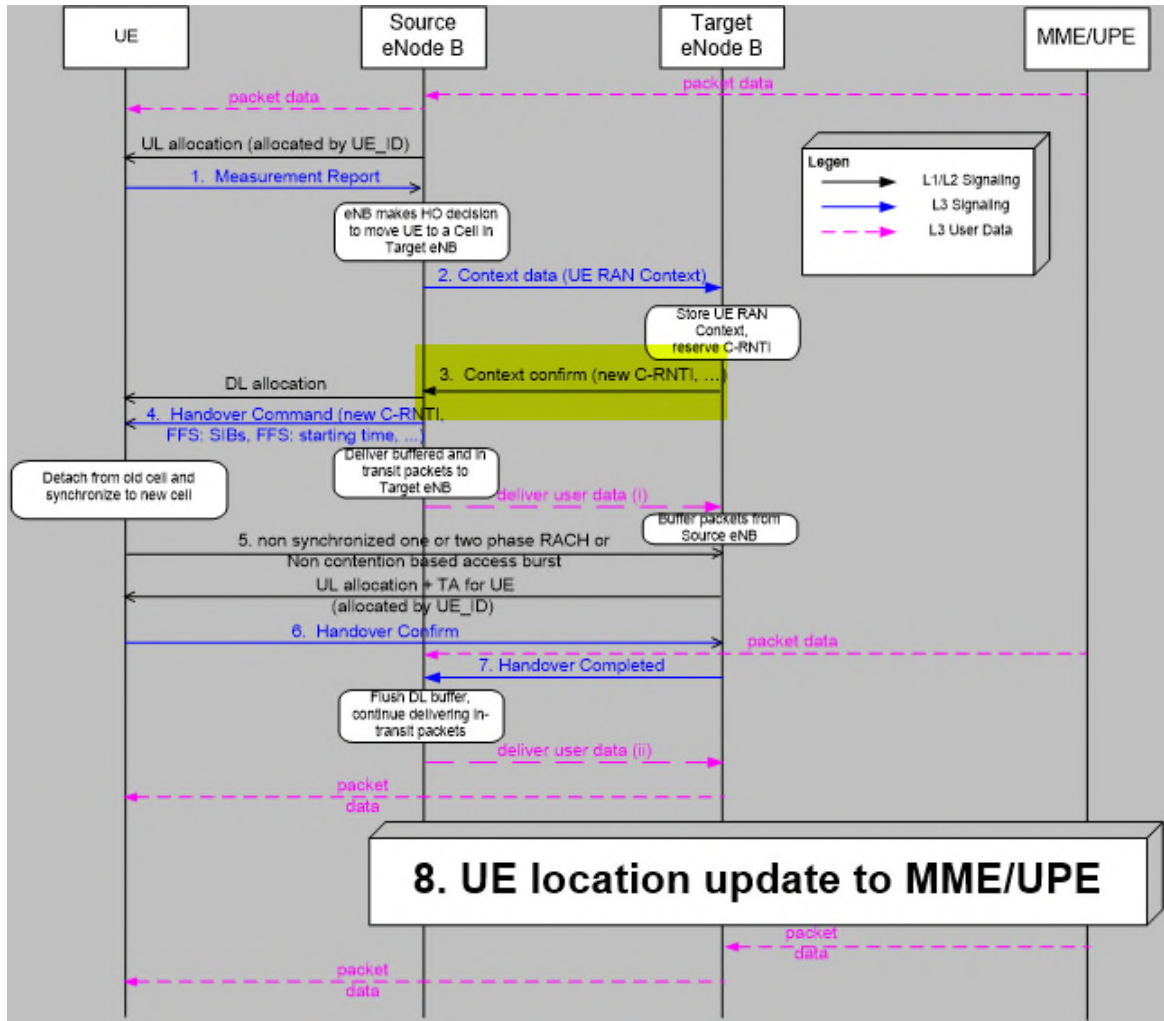


(f) “wherein the handover command message includes information related to a preamble for the terminal previously defined in a handover confirm message sent from the target base station to the source base station;”

Nokia taught this limitation. (Min¶108; Nokia at 2.) This limitation requires: (1) the handover command message from the source base station to the UE includes information related to a preamble, (2) that the information related to a preamble be for the terminal (UE) previously defined in a handover confirm message, and (3) the handover confirm message be sent from the target base

station to the source base station. (*Id.*)

Starting with the third requirement, Nokia describes a handover confirm message that is sent from the target base station to the source base station. (Min¶109; Nokia at 2.) In Nokia, after the Target eNodeB receives the handover request from Source eNodeB, “Target eNodeB prepares HO with L1/L2 and responds to source eNodeB by providing new C-RNTI and possibly some other parameters i.e. access parameters, SIBs, etc.” (*Id.*) This response is a handover confirm message. (*Id.*) This handover confirm message is also disclosed in Figure 1 of Nokia, with the relevant message—titled “context confirm” in the figure—highlighted. (*Id.*)



Moving to the first requirement, Nokia also discloses that the handover command message from the source base station to the UE includes information related to a preamble. (Min¶110; Nokia at 2.) As described for the limitation above, Nokia discloses that the handover command message is sent from the source base station to the UE. While Nokia does not provide the specific implementation details of the RACH procedure disclosed therein, as explained above in the Motivation to Combine Section, in the context of Nokia as a submission related to LTE standards, a POSITA would have understood that Nokia

taught incorporation of a conventional RACH procedure that involved the use of a shared channel, which thereby necessarily implicates such RACH procedures that used preambles to avoid contentions. (*Id.*) Nokia also describes that the Handover Command message contains the “necessary parameters i.e. new C-RNTI, possible starting time, target cell SIBs etc.” (*Id.*) A POSITA would recognize that this description was disclosing information related to a preamble. (*Id.*)

For example, SIBs—System Information Blocks— which are expressly references in Nokia, contain radio resource configuration information that is common for all UEs and can be transmitted from the network to the UE. (Min¶110, *citing* Ex.1023.) Common types of resource configuration information in the SIBs includes “Number Of RA-Preambles” (number of non-dedicated random access preambles), “Size Of RA-Preambles GroupA” (number of non-dedicated random access preambles in Random Access Preambles group A), “Preamble Trans Max” (maximum number of preamble transmission to achieve success), “Root Sequence Index” (used to determine 64 physical RACH preamble sequences available in the cell), and “Zero Correlation Zone Config.” (indicates the length index for the Zadoff-Chu sequence that generates the random access preamble). (*Id.**citing* Ex.1023.) All of this information is information related to a preamble because it is used by the UE to create and transmit the preamble to the target base station. (Min¶110.) Thus, Nokia, by disclosing that SIBs are contained

in the Handover Command necessarily discloses the handover command message from the source base station to the UE includes information related to a preamble.

(Id.)

To the extent that Nokia does not disclose information related to a preamble, Hu expressly discloses this. More particularly, Hu's disclosure of an "access resource" is a disclosure of a preamble, and Hu's further disclosure of timing and power information sent along with this access resource is a disclosure of information related to a preamble. (Min¶¶111-112.)

Consistent with the understanding of a POSITA, the '326 patent describes the use of a preamble in the context of the Physical Random Access Channel (PRACH) of the Wideband Code Division Multiple Access (WCDMA) system (which came before the '326 patent). (Min¶113.) As was understood by a POSITA, a PRACH preamble can comprise a code or signature. (Min¶¶113-115.)

The '326 patent further describes the RACH of WCDMA, and explains that "the RACH is mapped to a [PRACH]," thus teaching that the RACH preamble can comprise a code or signature. (Min¶¶114-115.)

Informing this understanding of a POSITA, the composition of the PRACH preamble in WCDMA (which is standard is expressly referenced in the '679 patent) was defined in 3GPP TS 25.213 v6.4.0 (2005-09) and 3GPP TS 25.211 v6.6.0 (2005-09), which are two technical specifications from the WCDMA

standard from before the claimed priority date of the '679 patent that were well known to a POSITA. (Min¶117.) More particularly, the 3GPP TS 25.211 v6.6.0 taught, the RACH preamble is of length 4096 chips and consists of 256 repetitions of a signature of length 16 chips. (Min¶117; Ex.1033, 3GPP TS 25.211 v6.6.0 at 15 (§ 5.2.2.1.2), 3GPP TS 25.211 v6.6.0 at 6.) Similarly and consistently with 3GPP TS 25.211, Ex.1032, 3GPP TS 25.213 v6.4.0 explained the PRACH preamble consists of a complex-valued code. (Min¶117; 3GPP TS 25.213 v6.4.0 at 14 (§§ 4.2.2.1, 4.3.3.1).) Thus, from the '326 Patent's description of a PRACH preamble together with their background knowledge of WCDMA, a POSITA would have understood the claim term "preamble" to be broad enough to encompass a code or signature. (Min¶118.)

Turning to Hu, the Hu reference disclosed several embodiments of resource allocation for the RACH procedure, where the Hu's access resources allow for handover communications between the target base station and the UE to take place in a RACH procedure. (Min¶119.) One embodiment, shown in Figure3c, allocates access resources by codes. (*Id.*) Figure3c shows several access resources, labeled "Access Resource 1," "Access Resource k," "Access Resource k+1," and "Access Resource n." Each access resource in Figure3c is a code. (Min¶113, citing Hu at 8, 12). As a POSITA would understand, such codes are a "preamble." (Min¶120.)

Furthermore, to the extent that Patent Owner argues that the term

“information related to a preamble for the terminal previously defined in a handover confirm message,” means information related to a “dedicated” or “specific” preamble for the terminal previously defined in a handover confirm message, Hu discloses this as well. Specifically, Hu discloses that the target base station designates a random access resource for the mobile terminal that is going through the handover process, which the mobile terminal uses to access the target base station. (Min¶121; Hu at Abstract, 6, 9 (step 407), 11, Fig.2 (step 202).) This random access resource is a preamble. (Min¶121; Hu at 6.)

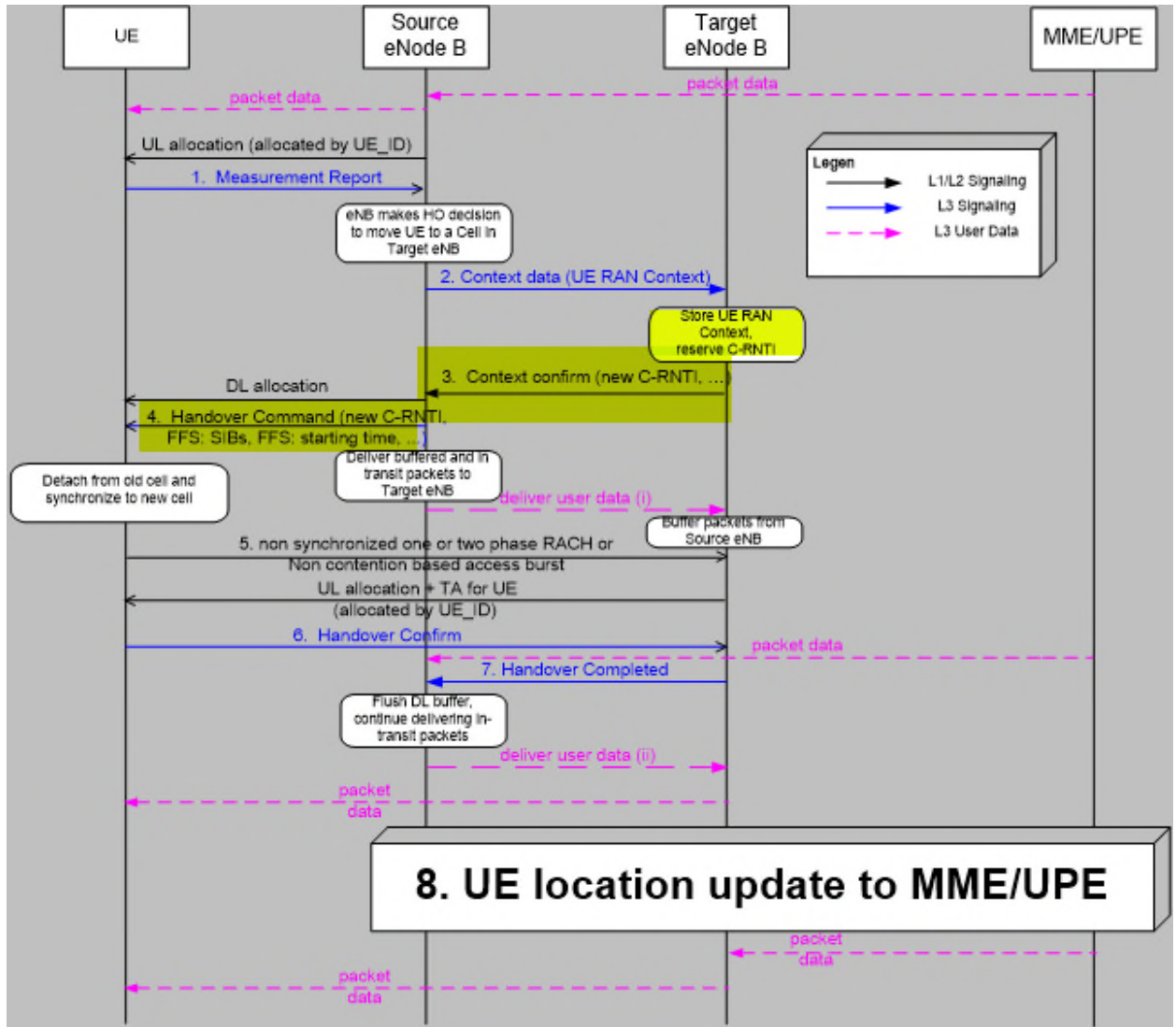
Hu also discloses that the target base station selects one random access resource for one specific mobile terminal that is going through the handover process. (Min¶¶122-124; Hu at 2, 6, 9, 13.) That selected and designated random access resource is reserved for, dedicated to, and used only for one particular terminal. (Min¶124.) Thus, that selected and designated random access resource is a dedicated preamble. (*Id.*)

Consistent with this understanding, Hu explains that one purpose of Hu’s invention is to enhance the access success rate of handover users. (Min¶124; Hu at Abstract, 6-8.) For this reason, Hu designates and selects a given random access resource for *only one* specific mobile terminal, and that resource is used only for that specific terminal. (Min¶124.) Thus, Hu discloses a “dedicated” or “specific” preamble for the terminal previously defined in a handover confirm message. (*Id.*)

In addition to Hu’s disclosure of a preamble—or a “dedicated” or “specific” preamble—Hu also discloses information related to a preamble. (Min¶125.) Specifically, Hu describes how in addition to the access resource code—*i.e.*, the preamble—sent by the target base station to the UE, the target base station also provides timing and power information at the same time with the access resource code. (Min¶125; Hu at 9, steps 405-07.) The mobile terminal uses the timing and power information to adjust the access resource timing and its own uplink transmit power to access the target base station using the access resource. (*Id.*) A POSITA would recognize that the timing and power information that is sent with the access resource would be information related to the preamble. (Min¶126.) While it is the access resource itself that is the preamble and is used to synchronize with the target base station, the timing and power information are needed by the mobile terminal to make sure that the access resource (preamble) is successfully sent to the target base station so synchronization can take place. (*Id.*) Therefore, the timing and power information is related to the preamble because it is still needed to successfully transmit and use the access resource (preamble). (*Id.*) Thus, Hu discloses information related to a preamble under any proposed interpretation. (*Id.*)

Regarding the second requirement—that the information related to a preamble be for the terminal (UE) previously defined in a handover confirm message—Nokia discloses this as well. (Min¶127; Nokia at 2.) As disclosed

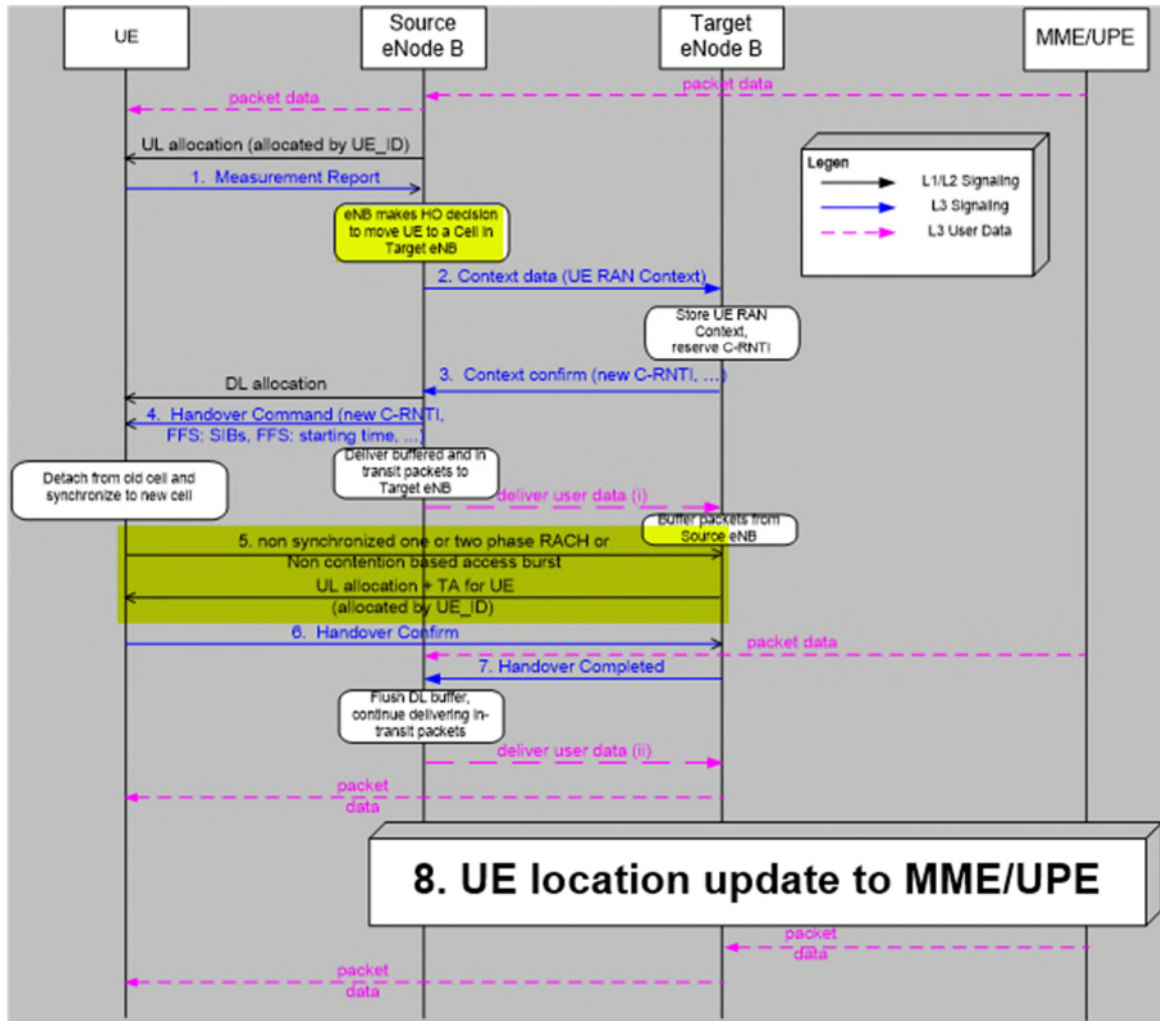
therein Nokia, the same information that is contained in the handover confirm message sent from the Target eNodeB to the Source eNodeB is then sent from the Source eNodeB to the UE: “The eNodeB prepares target eNodeB for handover and passes relevant information in the Handover Request. Target eNodeB prepares HO with L1/L2 and responds to source eNodeB by providing new C-RNTI and possibly some other parameters i.e. access parameters, SIBs, etc. After reception of accepted preparation of HO source eNodeB starts forwarding data packets to target cell. UE receives HANDOVER COMMAND with necessary parameters i.e. new C-RNTI, possible starting time, target cell SIBs etc.” (*Id.*) A POSITA would have understood that because the same information that is sent from the target base to the source base station in the handover confirm message is then sent from the source base station to the UE that is going to take part in the handover operation, the information in the handover confirm message—which includes information related to a preamble—would be for the UE previously defined in the handover confirm message. (*Id.*) Also, there is no other UE defined in Nokia, so the information related to a preamble must be for the terminal previously defined in the handover confirm message. (*Id.*) That the information related to a preamble be for the terminal (UE) previously defined in a handover confirm message is also disclosed in Figure 1 of Nokia, with the relevant portion highlighted. (*Id.*)



Therefore, in view of the above, Nokia alone, or in combination with Hu, discloses “the handover command message includes information related to a preamble for the terminal previously defined in a handover confirm message sent from the target base station to the source base station.” (Min¶128; Nokia at 2.)

- (g) **“in response to the handover command message, perform, by the terminal, a random access procedure with the target base station to connect with the target base station using the information related to the preamble; and”**

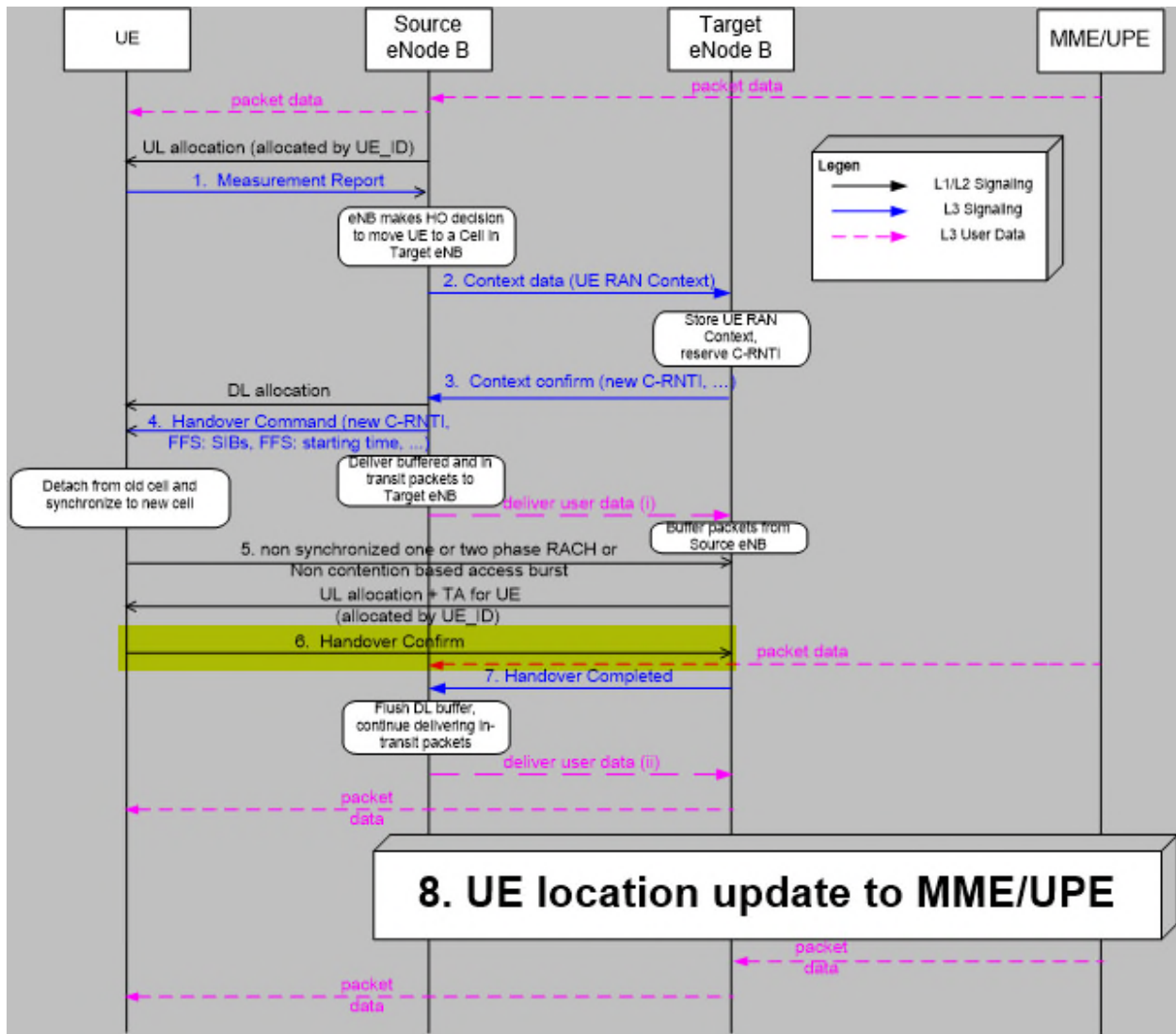
Nokia, in view of Hu taught this limitation. (Min¶129; Nokia at 2.) As disclosed in Nokia, after the UE receives the Handover Command—which includes the information needed for the UE to communicate with the target base station of a shared channel, and which in view of the teachings of Hu would further contain information related to the preamble—the “UE performs synchronization to target cell and then starts acquiring UL timing advance” and the “[t]iming advance can be achieved by normal one or two phase **RACH procedure.**” (*Id.* (emphasis added)). Nokia goes on to explain that the “[n]etwork responds with UL allocation and timing advance.” (*Id.*) Figure 1 also discloses that in response to the handover command the UE performs a RACH procedure with the target base station, shown highlighted below. (*Id.*)



This is further consistent with the details of the RACH procedure as disclosed in Hu, wherein the “necessary” information required by the UE to send and receive information over a shared channel –including in particular the dedicated preamble (random access resources) and information related to the preamble (timing and power information) – is sent from the target base station to the UE during the RACH procedure. *See* Ex.1004, p. 6 (steps B2 – B3, including B21 and B22); (Min¶130.)

(h) **“transmit a handover complete message to the target base station.”**

Nokia taught this limitation. (Min¶131; Nokia at 3 and Fig.1.) Nokia discloses that, after the network responds to the UE with UL allocation and timing advance (“TA”), the UE uses them “to send HANOVER CONFIRM to the target eNodeB which completes [the] handover procedure for the UE.” (*Id.*) Figure 1 also shows this feature shown highlighted below. (*Id.*)



3. Dependent claim 19 is invalid.

(a) **“The mobile terminal of claim 18,”**

Claim 19 depends on claim 18. Nokia in view of the knowledge of a POSITA and/or Hu taught every feature of claim 18 for the reasons in section IX.A.2.

(b) **“wherein the handover command message includes time and frequency information to connect the target base station and the terminal.”**

Nokia taught this limitation. (Min¶134; Nokia at 2 and Fig.1.) In the system taught by Nokia, the UE “receives HANDOVER COMMAND” with necessary parameters i.e. new C-RNTI, possible starting time, target cell SIBs etc.” (Min¶135; Nokia at 2 and Fig.1.) A POSITA would have readily known and understood at the time of the alleged invention that SIBs—System Information Blocks—contain time and frequency information. (*Id.*)

As described above, SIBs are radio resource configuration information that is common for all UEs and can be transmitted from the network to the UE. (*Id.*) Common types of resource configuration information in the SIBs relevant to this limitation include “MAC Contention Resolution Timer” (time when a UE waits for Msg4 during a random access procedure), “Time Alignment Timer Common” (length of the uplink time alignment timer for UEs in the cell), and “UL Bandwidth” (uplink transmission bandwidth). (*Id.*) The first two examples

include time information and the last example includes frequency information.

(*Id.*) Thus, Nokia’s disclosure of SIBs in the handover command necessarily discloses that the handover command includes time and frequency information to connect the target base station and the terminal. (*Id.*)

Also as described above, Hu taught that in addition to the access resource code—*i.e.*, the preamble—sent by the target base station to the UE, the target base station also provides timing and power information at the same time with the access resource code. (Min¶136; Hu at 9, steps 405-07.) If the Nokia handover command was sending Hu’s access resource code—*i.e.*, the preamble—it would have included time and power information. (*Id.*)

4. Dependent claim 20 is invalid.

(a) **“The mobile terminal of claim 18,”**

Claim 19 depends on claim 18. Nokia in view of the knowledge of a POSITA and/or Hu taught every feature of claim 18 for the reasons in section IX.A.2, *supra*.

(b) **“wherein the processor is further configured to receive, in the terminal, time and frequency information from the source base station for use in connecting to the target base station.”**

Nokia taught this limitation. (Min¶139; Nokia at 2 and Fig.1.) As just explained above for claim 19, Nokia and Hu both disclose that the handover command includes time and frequency information to connect the target base

station and the terminal. In addition, as explained above for claim limitation 18(e), Nokia discloses that the source base station sends the handover command to the mobile terminal. And, as explained above for claim limitations 18(b) and 18(c), Nokia discloses that the mobile terminal has a transceiver and a processor.

A POSITA would have readily known and understood at the time of the alleged invention that a communication system using the protocol described in Nokia would include a mobile terminal that had to include a transceiver, and that transceiver would have to be able to both transmit and receive data because the protocol described in Nokia would not work if the transceiver was not configured to transmit or receive data. (Min¶140.) Further, a POSITA would have readily known and understood at the time of the alleged invention that a communication system using the protocol described in Nokia would include a mobile terminal that had to include a processor cooperating with, and receiving data from, the transceiver so that the data could be acted on by the processor because the protocol described in Nokia would not work if the processor did not cooperate with, and receive data from, the transceiver. (*Id.*) Therefore, a POSITA would have readily understood that Nokia disclosed a processor in a mobile terminal that is configured to receive time and frequency information from the source base station for use in connecting to the target base station. (*Id.*)

5. Independent Claim 14 is Invalid.

- (a) **“A method to perform a random access procedure in a mobile communications system comprising:”**

Nokia taught this feature for the reasons in Section IX.A.2.a.

- (b) **“receiving, by a terminal, a handover command message from a source base station which has determined that a handover should occur to a target base station,”**

Nokia taught this feature for the reasons in Section IX.A.2.e.

- (c) **“wherein the handover command message includes information related to a preamble for the terminal previously defined in a handover confirm message sent from the target base station to the source base station;”**

Nokia, in view of the knowledge of a POSITA and/or Hu, taught this feature for the reasons in Section IX.A.2.f.

- (d) **“in response to the handover command message, performing, by the terminal, a random access procedure with the target base station to connect with the target base station using the information related to the preamble; and”**

Nokia, in view of Hu, taught this feature for the reasons in Section IX.A.2.g.

- (e) **“transmitting, by the terminal, a handover complete message to the target base station.”**

Nokia taught this feature for the reasons in Section IX.A.2.h.

6. Dependent Claim 15 is Invalid.

- (a) **“The method of claim 14,”**

Claim 15 depends on claim 14. Nokia in view of the knowledge of a

POSITA and/or Hu taught every feature of claim 14 for the reasons in section IX.A.5.

- (b) **“wherein the handover command message includes time and frequency information to connect the target base station and the terminal.”**

Nokia taught this feature for the reasons in Section IX.A.3.b.

7. Dependent Claim 16 is Invalid.

- (a) **“The method of claim 14, further comprising”**

Claim 16 depends on claim 14. Nokia in view of the knowledge of a POSITA and/or Hu taught every feature of claim 14 for the reasons in section IX.A.5.

- (b) **“receiving in the terminal, time and frequency information from the source base station for use in connecting to the target base station.”**

Nokia taught this feature for the reasons in Section IX.A.4.b.

X. THE BOARD SHOULD NOT DENY INSTITUTION UNDER SECTION 314(A)

The Board should institute this proceeding because the relevant factors weigh against discretionary denial under 35 U.S.C. §314(a). Under *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (Mar. 20, 2020) (precedential), non-institution would be improper because Factors 1, 3-4 and 6 are neutral or weigh in favor of institution, and Factor 5 should, at worst, be viewed as neutral to avoid frustrating Congress’s desire that this proceeding be an alternative to litigation. *Philip Morris Products,*

S.A., v. RAI Strategic Holdings, Inc., IPR2020-01094, Paper 9, 24-25 (Jan. 25, 2021) (declining to exercise discretion not to institute even where *Fintiv* factors 1-3 favored such exercise); *3Shape A/S and 3Shape Inc., v. Align Technology, Inc.*, IPR2020-00223, Paper 12, 34 (May 26, 2020) (“The differences between the issues raised in the present Petition and in the parallel ITC Investigation, as per factor (4), and the strength of Petitioner’s position, as per factor (6), outweigh other applicable factors”). Discretionary denial is further inappropriate here because Petitioner has expressly stipulated, as set forth below, that it will not assert in the ITC Proceeding any grounds of invalidity based on Nokia (*i.e.*, the primary reference relied upon herein) including, but not limited to, any and all grounds advanced herein, if this IPR is instituted. *Philip Morris*, IPR2020-01094, Paper 9, 21-23.

A. Whether the district court granted a stay or a stay may be granted if a proceeding is instituted

Litigation in the co-pending N.D. Illinois Action was stayed on March 10, 2021 pending finality of the ITC Proceeding. Ex.1034. “The stay of [the N.D. Illinois Action] allays concerns about inefficiency and duplication of efforts as it relates to this proceeding.” *Samsung Elec. Co., Ltd. et al. v. Dynamics, Inc.*, IPR2020-00503, Paper 14, p. 10 (Aug. 12, 2020). Accordingly, “[t]his factor weighs against exercising discretion to deny institution.” *Id.* (stating this factor weighs against exercising discretion in view of district court stay despite ongoing ITC proceeding).

With respect to the ITC Proceeding, as of this time, no stay pending IPR has been requested; however, Petitioner intends to file a motion to stay pending IPR if the Petition is instituted. The ITC has declined to speculate whether a stay will be granted in a parallel litigation pending during an *inter partes* review. *See, e.g., Ocado Group PLC v. AutoStore Tech. AS*, IPR2021-00311, Paper 11 at 13 (June 28, 2021); *GAF Materials LLC v. Kirsch Rsch. and Dev., LLC*, IPR2021-00192, Paper 14 at 12 (May 25, 2021); *AT&T Services, Inc. v. Broadband iTV, Inc.*, IPR2021-00649, Paper 12 at 9 (August 25, 2021).

Accordingly, this factor weighs against exercising discretion to deny institution, and, at most, is neutral.

B. Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision

No trial date has been set in the district court, and any theoretical trial date is years away. Accordingly, the Board's projected statutory deadline for a final written decision will long predate any trial, and this factor favors institution.

If the Board were to consider the ITC Investigation schedule, this factor weighs slightly in favor of exercising discretion to deny institution. Here, the Board's projected statutory deadline for a final written decision in the Samsung IPR (which Motorola seeks to join) is December 7, 2022. The ITC's initial determination is expected by May 6, 2022, and the target date for completion of the investigation is expected by September 8, 2022. *See Ex.1035*. Thus, as the PTAB's final written

decision would be only three months after the target completion of the ITC's investigation, this factor weighs in favor of denying institution.

In similar circumstances, however, the Board has declined to exercise its § 314(a) discretion in multiple cases even where the ITC investigation was scheduled to conclude before a final written decision would be entered. *See Ocado Group PLC v. AutoStore Tech. AS*, IPR2021-00311, Paper 11 at 18-19 (June 28, 2021) (declining to exercise § 314(a) discretion where the final written decision would be expected three months after completion of the ITC investigation); *see also Samsung Elec. Co. Ltd. v. Dynamics Inc.*, IPR2020-00499, Paper 41 at 16 (August 12, 2020); *3Shape*, IPR2020-00223, Paper 12, at 34.

Accordingly, this factor weighs slightly in favor of exercising discretion to deny institution only if the ITC Investigation schedule is considered.

C. Investment in the parallel proceeding by the court and the parties

The N.D. Illinois Action was stayed shortly after the Complaint was served, and the court has invested no substantive efforts into the patentability of the claims at issue. Accordingly, the district court has not (and as of the time of the final written decision in this action, almost certainly will not have) issued claim construction rulings, and all of fact and expert discovery will remain, weighing against discretionary denial.

Further, even considering the ITC Proceedings, in that action fact discovery is still underway, few depositions have taken place, and the evidentiary hearing is not scheduled until January 31, 2022. *See* Ex.1034. Thus, “there has been limited investment in the ITC Investigation by the Commission or by the Parties.” *Apple Inc. et al. v. Neodron, Ltd.*, IPR2020-00778, Paper 10, at 19. Moreover, there have been no orders related to the patents at issue. Where, as here, the parallel proceedings “ha[ve] not issued orders related to the patent at issue in the petition, this fact weighs against exercising discretion to deny institution.” *Fintiv*, Paper 11, at 10.

Accordingly, this factor weighs in favor of institution. *See Zonar Sys., Inc. v. Innovative Global Sys. LLC*, IPR2020-00168, Paper 11, at 15 (PTAB May 12, 2020).

D. Overlap between issues raised in the petition and in the parallel proceeding

For the avoidance of doubt, Petitioner stipulates that, if this IPR is instituted, Petitioner will not assert in the ITC case any grounds of invalidity based in any way upon the primary reference relied upon herein, Nokia (including, but not limited to, any and all grounds advanced herein). Accordingly, there is no overlap between the issues to be tried in the ITC litigation and those raised in this IPR if instituted. The Board has found that such stipulations weigh in favor of institution. *SK Hynix Inc. and SK Hynix America Inc. v. Netlist, Inc.*, IPR2020-01421, Paper 10 at 12 (March 16, 2021); *Sand Revolution II, LLC v. Continental Intermodal Grp. – Trucking LLC*,

IPR2019-01393, Paper 24 at 11-12 (June 16, 2020) (informative); *Apple Inc. v. Maxell, Ltd.*, IPR2020-00204, Paper 11 at 15-17 (June 19, 2020).

Additionally, Patent Owner's complaint purports to assert claims 18-20. Ex.1036. This Petition challenges an additional independent claim (claim 14), and two additional dependent claims (claims 15, 16) which weighs in favor of institution. *3Shape A/S v. Align Tech., Inc.*, IPR2020-00223, Paper 12, at 34 (PTAB May 26, 2020); *see also Apple, Inc. v. Maxell, Ltd.*, IPR2020-00204, Paper 11, at 17 (PTAB June 19, 2020).

Furthermore, the ITC lacks the authority to issue a binding ruling on invalidity, and "decisions of the ITC involving patent issues have no preclusive effect in other forums." *Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1569 (Fed. Cir. 1996); *Tandon Corp. v. USITC*, 831 F.2d 1017, 1019 (Fed. Cir. 1987); *Samsung Elec. Co. Ltd. v. Dynamics Inc.*, IPR2020-00499, Paper 41 at 13 n. 8 (August 12, 2020); *Nichia Corp. v. Lighting Science Group Corp.*, IPR2019-01259, Paper 21, *27 (PTAB Jan. 15, 2020); *Renesas Elecs. Corp. v. Broadcom Corp.*, IPR2019-01040, Paper 9 at 8 (PTAB Nov. 13, 2019); *3Shape*, IPR2020-00223, Paper 12, 33-34. Therefore, resolution of the ITC proceeding would not resolve the parties' dispute concerning patentability of claims 18-20 of the '326 Patent.

Accordingly, this factor weighs in favor of institution.

E. Whether the petitioner and the defendant in the parallel proceeding are the same party

While this factor arguably weighs in favor of discretionary denial, this interpretation of this factor has been questioned by the Board. *See Cisco Systems, Inc. v. Ramot at Tel Aviv University Ltd.*, IPR2020-00122, Paper 15 at 10 (May 15, 2020) (dissent). Moreover, as the Board noted in *Fintiv*, this factor is related to the issue of overlap between proceedings. *See Fintiv*, IPR2020-00019, Paper 11, at 14 (noting this factor likewise related to “redoing the work of another tribunal.”).

As set forth above, Petition has stipulated that, if this Petition were to be instituted, the parties would withdraw any ground of invalidity based in any way upon the primary reference relied upon herein, Nokia (including, but not limited to, any and all grounds advanced herein), thus eliminating the potential for overlap.

Accordingly, this factor should be neutral, or, in view of Petitioner’s stipulation to withdraw such grounds from the district court litigation, weigh against discretionary denial.

F. Other circumstances that impact the Board’s exercise of discretion, including the merits

This factor considers other case-specific circumstances, including the merits of the proceeding. The merits of this Petition are strong and distinguish it from instances where the Board exercised discretion to deny institution. *See Samsung Elec. Co., Ltd. et al. v. Dynamics, Inc.*, IPR2020-00502, Paper 14, at 14 (Aug. 12,

2020) (finding the “merits of this case weigh in favor of Petitioner” where “Petitioner present[ed] a persuasive rationale to combine [the asserted prior art references], based on the present record, with a reasonable expectation of success to teach the limitations of [the challenged] claims.”); *3Shape*, IPR2020-00223, Paper 12, at 34 (same); *Philip Morris*, IPR2020-01094, Paper 9, at 24-25. Indeed, the Petition presents strong arguments that the Challenged Claims are unpatentable (as set forth in Section IX.A. herein), and the strength of these arguments alone is reason enough for the Board to institute.

Finally, Motorola seeks to join the earlier-filed Samsung IPR, and is submitting an identical petition relying on the same evidence and declarant testimony. The Board has instituted review on “standard ‘me-too’ petition[s]” even when filed after an institution decision. *See AT&T Services, Inc. v. Broadband iTV, Inc.*, IPR2021-00649, Paper 12 at 7-17 (August 25, 2021). Here, Motorola filed its “me-too” petition before the Board’s institution decision. Motorola’s petition is substantively identical to the Samsung IPR, so no “road mapping” of Patent Owner’s arguments has occurred. If the Board institutes review in the Samsung IPR, the Board should also institute review on this petition.

Accordingly, this factor should weigh against discretionary denial, and at worst, be neutral.

XI. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION UNDER § 325(D)

To the extent Patent Owner asks the Board to exercise its discretion to deny institution under § 325(d) in view of either (i) the IPR proceedings involving the '373 patent, or (ii) the fact that the Nokia and Hu reference were cited during prosecution, the Board should decline. Under § 325(d), the Board applies a two-part framework: (1) whether the “same or substantially the same prior art or arguments previously were presented to the Office”; and (2) if so, whether “the Office erred in a manner material to the patentability of challenged claims.”

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). The *Becton, Dickinson* factors are helpful in applying this framework; *Becton, Dickinson* factors (a), (b), and (d) can guide consideration of the first prong, while factors (c), (e), and (f) can guide consideration of the second prong. *Id.* at 9-11.

Here, Petitioner relies on Nokia and Hu references, which teach the core elements of the Challenged Claims. This particular combination of references was not before the Examiner during prosecution of the '326 Patent. Nor was this combination (or one similar to it) before the Board in the prior IPR proceedings involving the '373 patent. In those proceedings, the petitioners relied on a completely different set of references, including U.S. Patent Nos. 7,693,517 (Etemad) and 7,570,618 (Son), which the Board found did not disclose the

“dedicated preamble used only for a specific terminal” limitation as claimed in the ’373 Patent.

More particularly, the Board found that Petitioner “insufficiently show[ed]” that the “assigned ranging code” of Son when combined with the “reserved ranging channel” of Etemad did not expressly disclose or teach that the ranging code was a “specific, dedicated code used only for a specific subscriber station.” *Apple et al. v. Evolved Wireless Inc.*, IPR2016-01185, Paper 7, at 15-16 (December 19, 2016). The ’326 patent, claims a fundamentally different invention. Specifically, the ’326 patent does not claim a dedicated preamble, or even a preamble. Moreover, the references asserted herein include fundamentally different disclosure than Etemad and Son.

As described above in detail in Section VIII.B, Hu expressly discloses that the target base station designates a specific random access resource (*i.e.*, a preamble) for one particular mobile terminal that is performing handover, and more particularly, that the selected and designated access resource is reserved for, dedicated to, and used only for that one particular terminal. (Min¶124.) Accordingly, discretionary denial under § 325(d) is unwarranted. *See St Jude Medical, LLC v. Snyders Heart Valve LLC*, Case No. IPR2018-00105, Paper 15 at 12 (PTAB May 3, 2018) (instituting where “[t]he evidence of record does not demonstrate that the [Office] considered the references in the combinations relied

upon by Petitioner or addressed arguments similar to those Petitioner now presents”).

While Nokia and Hu were “presented to the Office” during prosecution, the Examiner materially erred in evaluating the ’326 Patent. Under part two of the *Advanced Bionics* framework, Examiners materially err when they “misapprehend[] or overlook[] specific teachings of the relevant prior art where those teachings impact patentability of the challenged claims.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 8 n.9. That is exactly what happened during prosecution of the ’326 Patent. Indeed, Nokia and Hu were simply two of hundreds of references disclosed to the Examiner during prosecution, and were never materially addressed during prosecution. Had the Examiner properly considered Nokia in view of Hu, however, he would have realized (as demonstrated herein) that the combination of Nokia and Hu disclosed the use of dedicated preamble in the context of the handover procedure claimed in the ’326 patent. With this realization, the Examiner would have used Nokia and Hu to reject the challenged claims during prosecution. The only reasonable explanation for the Examiner’s failure to reject the claims over the combination of Nokia and Hu is that he misapprehended or overlooked the ’326 Patent’s teachings during prosecution. *See Mylan Pharm. Inc. v. Merck Sharp & Dohm Corp.*, IPR2020-00040, Paper 21 at 18 (PTAB May 12, 2020). The Examiner thus erred in a

manner material to the patentability of the Challenged Claims by failing to reject the claims over the '326 patent during prosecution. *SharkNinja Operating LLC v. iRobot Corp.*, IPR2020-00733, Paper 11, at 42 (fact that reference asserted in petition was merely one among hundreds cited during prosecution supported inference that Examiner erred under *Becton Dickinson* test)

Petitioner has satisfied the requirement under part two of the *Advanced Bionics* framework and *Becton, Dickinson* factor (e) by “demonstrat[ing] that the Office erred in a manner material to the patentability of challenged claims.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 8. Moreover, at least *Becton, Dickinson* factors (c) (“the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection”), (d) (“the extent of the overlap between the arguments made during examination and the manner in which petitioner relies on the prior art”), and (f) (“the extent to which additional evidence and facts presented in the petition warrant reconsideration of the prior art or arguments”) also favor institution.

In particular, neither Nokia nor Hu were ever referenced or evaluated in any office action during prosecution, or by the Board in the '373 proceedings. *Id.* at 9 n.10. Indeed, under *Advanced Bionics*, “if the record of the Office’s previous consideration of the art is not well developed or silent”—as it is here—“then a petitioner may show the Office erred by overlooking something persuasive under

factors (e) and (f).” *Id.* at 10. Petitioner has made exactly that showing and thus submit that it would be inappropriate for the Board to deny institution under § 325(d). *See Roku Inc. v. Universal Electronics, Inc.*, IPR2019-01615, Paper 12 at 8-13 (April 17, 2020) (granting institution and declining to exercise discretion under § 325(d) where asserted prior art was disclosed during prosecution but never used in an office action).

Moreover, this Petition is supported by the declaration of Dr. Min, who provides new evidence not previously before the Examiner or the Board, which weighs against exercising discretion under § 325(d). *Adello Biologics, LLC v. Amgen, Inc.*, PGR2019-00001, Paper 13 at 10-11 (PTAB Apr. 19, 2019); *Parsons Xtreme Golf, LLC v. Taylor Made Golf Co., Inc.*, PGR2018-00074, Paper 7 at 42-43 (PTAB Jan. 24, 2019); *Hospira, Inc. v. Genentech, Inc.*, IPR2017-00804, Paper 13 at 11-13 (PTAB July 27, 2017).

* * *

In sum, the Board should deny any request by Patent Owner to deny the Petition under § 325(d).

XII. CONCLUSION

Petitioner respectfully requests the Board institute a trial and cancel claims 14-16, 18-20 of the '326 patent.

Dated: September 13, 2021

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CERTIFICATION UNDER 37 CFR §42.24(d)

Pursuant to 37 C.F.R. §42.24(d), I certify that this petition complies with the type-volume limits of 37 C.F.R. §42.24(a)(1)(i) because it contains 13,822 words, excluding the parts of this petition that are exempted by 37 C.F.R. §42.24(a), according to the word-processing system used to prepare this petition.

Dated: September 13, 2021

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b), the undersigned hereby certifies that a copy of the foregoing Petition for *Inter Partes* Review and all Exhibits was provided to Patent Owner by emailing a copy of same (by agreement) to the following attorneys of record for the Patent Owner:

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