

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS INC.,
Petitioner,

v.

PANTECH WIRELESS LLC,
Patent Owner

Case: IPR2023-01270

U.S. Patent No. 10,869,247

PATENT OWNER PRELIMINARY RESPONSE

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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PATENT OWNER’S EXHIBIT LIST

Exhibit No.	Description
2001	January 13, 2023 Declaration of Jamie B. Beaber (Confidential)
2002	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 1 (Complaint).
2003	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 15 (LGE SEALED Motion to Disqualify) (Confidential).
2004	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 93 (Magistrate Order Regarding LGE’s Motion for Disqualification) (Confidential).
2005	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 160 (Order Regarding LGE’s Motion for Disqualification) (Confidential).
2006	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 102 (SEALED Defendants’ Rule 72 Objections to the Order Regarding Disqualification) (Confidential).
2007	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 103 (SEALED Pantech Objections to Order Denying DQ) (Confidential).
2008	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 111 (SEALED Pantech Response to LGE Objections to Order Denying Disqualification) (Confidential).
2009	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 113 (SEALED LGE’s Opposition to Plaintiffs’ Rule 72 Objections) (Confidential).
2010	(Reserved)
2011	November 18, 2019 Declaration of Juseong Ryu (Confidential)
2012	ABA Formal Opinion #05-436
2013	3GPP TS 36.321
2014	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 45 (Pantech’s Response to LGE’s Motion to

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	Disqualify) (Confidential).
2015	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 54 (SEALED Reply ISO Motion to Disqualify) (Confidential).
2016	<i>Pantech Corp. v. LG Electronics Inc.</i> , Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 60 (SEALED Sur-reply ISO Response to Motion to Disqualify Mayer Brown) (Confidential).
2017	Claim Construction Order from <i>Pantech Corp. v. LG Electronics Inc.</i> , No. 5:22-cv-00113-RWS, Dkt. 215 (E.D. Tex. Oct. 23, 2023)
2018	Invalidity Contentions from <i>Pantech Corp. v. LG Electronics Inc.</i> , No. 5:22-cv-00113-RWS (E.D. Tex. April 13, 2023)

I. INTRODUCTION

Patent Owner Pantech Wireless LLC (“Patent Owner”) respectfully requests that the United States Patent and Trademark Office (“USPTO” or the “Office”) Patent Trial and Appeal Board (“PTAB” or the “Board”) deny institution of review of claims 1-20 (the “challenged claims”) of U.S. Patent No. 10,869,247 (“the ’247 Patent”). Petitioner LG Electronics, Inc. (hereinafter “Petitioner” or “LGE”) failed to demonstrate a reasonable likelihood of prevailing with respect to any challenged claim. Additionally, the circumstances of this Petition strongly weigh in favor of discretionary denial; the co-pending litigation in district court is at an advanced stage and will consider nearly every ground presented in this Petition, and several key references were already considered by the Office in relation to the ’247 Patent.

Regarding discretionary denial under 35 U.S.C. § 314(a), application of the *Fintiv* factors weigh in favor of denying institution. One of the purposes of IPRs is to be an “effective and efficient alternative” to litigation. *Gen. Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16-17 (PTAB Sept. 6, 2017) (precedential). Here, instituting an IPR would not be an effective or efficient alternative to litigation, particularly given the stage of the co-pending District Court case *Pantech Corp. v. LG Electronics Inc.*, No. 5:22-cv-00113-RWS (E.D. Tex.) (“District Court Action”) and the finite resources of the Board. Petitioner asks the

Board to consider fourteen grounds of potential invalidity, but the District Court Action will consider these grounds (absent only a secondary reference) on a shorter timeline: trial in the parallel district court proceeding is scheduled for September 2024, before even a reply would be due from Petitioner (late October 2024), and expert discovery will conclude prior to any institution decision. Accordingly, institution would not be in furtherance of an efficient alternative to district court litigation, as is the goal of *inter partes* review.

Regarding discretionary denial under 35 U.S.C. § 325(d), the '247 Patent and its family members were thoroughly examined during prosecution, including in view of key references cited in the Petition (namely Kuchibhotla and Liu). The Office also considered arguments substantially similar to arguments made in the Petition by consideration of prior art references such as U.S. Patent Pub. 2004/0109433 ("Khan"). The Board should defer to the Office's prior evaluation of the patentability of the '247 Patent and deny review for this reason too.

Finally, the Petition has not shown a likelihood of success on the merits. Petitioner implicitly recognizes that one of its primary references, Lucent, fails to disclose the claimed to "determine whether to retransmit the data block based on the received uplink scheduling information and not based on whether the WTRU has received a negative acknowledgement (NACK) from the base station" and attempts

to fill the gaps with the knowledge of a POSITA and secondary references. Petition at 26. As explained herein, these attempts fail. Furthermore, with regard to Petitioner's other primary reference, Kuchibhotla, teaches a mutually exclusive manner of determining whether to retransmit a packet from the '247 Patent's requirement that uplink scheduling information be used to determine whether to retransmit the data. Statements by Petitioner and its cited expert declaration regarding these deficiencies are largely unsupported and conclusory, thereby failing to indicate any likelihood of success. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Accordingly, for at least these reasons, the Board should deny Petitioner's request to institute *inter partes* review.

II. BACKGROUND

A. Brief Technology Background

The '247 Patent relates to the field of wireless communications, and specifically wireless communications that use a hybrid automatic repeat request (H-ARQ) process to transmit a data block to the base station. '247 Patent at Abstract.

Wireless transmission may result in errors at the receiver due to noise, channel fading, and interference. 4G and 5G systems use a protocol called Hybrid Automatic

Repeat Request (“HARQ”) to deal with errors. The term “hybrid” implies that it is a combination of Forward Error Correction (“FEC”) and Automatic Repeat Request (ARQ). Where FEC is used to detect and correct some transmission errors without the need for retransmission, and ARQ provides a process where correct packets are retransmitted.

According to the HARQ protocol, after every transmission there is a positive acknowledgment (“ACK”) or negative acknowledgement (“NACK”). If the reception is successful, an ACK is sent. If the received message was not decoded successfully, the mobile device responds with a NACK message. If the transmitting entity receives a NACK or no response, the HARQ protocol ensures that the message is automatically retransmitted. Further, data transmitted through the HARQ process is buffered (*i.e.* stored temporarily in memory) until an ACK is received.

According to the 5G protocol, which differs from 4G HARQ such that both downlink HARQ and uplink HARQ are asynchronous, there is no specific ACK/NACK for Physical Uplink Shared Channel (PUSCH) transmissions. A retransmission request from the gNB plays the role of a NACK. If there is no retransmission request the device assumes that PUSCH is successfully received, meaning that an ACK message is not used.

Devices that connect to a cell cannot transmit and receive data without being

scheduled. Scheduling is the process of allocating resources for downlink or uplink transmission of data, and is performed by the base station in 4G and 5G networks. The on-demand or dynamic scheduling commands in 4G and 5G networks are known as Downlink Control Information (“DCI”) and are transmitted over the Physical Downlink Control Channel (“PDCCH”). The DCI contains, inter alia, the RB assignments, Modulation and Coding Scheme (“MCS”), and other control information. *See*, ETSI TS 136.212 V14.2.0 at § 5.3.3.1. The modulation schemes that are defined in the LTE downlink include QPSK, 16 QAM, 64 QAM, and 256 QAM.

B. Overview of the ’247 Patent Invention

The ’247 Patent has a priority date of November 5, 2003, and is titled “Supporting uplink transmissions.” *See* Ex. 1001.

The ’247 Patent generally relates to a WTRU (e.g., a cellular device) transmitting a data block to a base station using a hybrid automatic repeat request (H-ARQ) process, receiving uplink scheduling information from the base station, and determining whether to retransmit the data block based on the received uplink scheduling information and not based on whether the UE has received a negative acknowledgment (NACK) from the base station. *Id.* at Abstract.

The '247 Patent explains that during a “soft” handover from one cell to another, a wireless device (or WTRU) may establish multiple connections with multiple base stations (or Node-Bs). *Id.* at 2:12–13. This, however, may cause issues with scheduling and H-ARQ information—generally, acknowledgments (ACKs) and “no acknowledgements” (NACKs) of messages—because the terminal may receive conflicting information from more than one base station, possibly resulting in corruption of the H-ARQ or other information. *Id.* at 2:13–16. For example, the terminal may not understand certain scheduled uplink information is intended for data with previous transmission failures because of the handover process. *See id.* at 8:10–22. While this can be somewhat addressed by placing the ACK/NACK generation function in the radio network controller—*i.e.*, the high-level device that controls the base stations—that “presents a significant delay to the ACK/NACK process,” which hinders performance. *Id.* at 2:23–29.

The '247 Patent addresses this problem by disclosing systems and methods where WTRU does not receive conflicting scheduling of EU transmissions for Node-Bs during a handover and the EU transmission is scheduled in consideration of an interference level and radio resources in cells controlled by non-primary Node-Bs. *Id.* at 5:1-9. One example of the claimed methods for doing so involves “including H-ARQ process identification in the UL scheduling information that is sent from the

source Node-B” to the WTRU and the WTRU knowing that “the scheduled transmission is for specific data associated with HARQ process identification sent together with the scheduling information.” *Id.* at 8:10-22.

C. Relevant '247 Patent Prosecution History

The patent application that led to the issuance of the '247 Patent was quickly approved. On October 15, 2020, the Examiner allowed the claims noting that the primary reason for allowance was because the prior art of record, including U.S. Patent Pub. 2004/0109433 (Khan), alone or in combination, failed to teach the subject matter of independent claim 1 and 11. *See* Ex. 1002 ('247 Patent File History) at 93.

Additionally, the brevity of the prosecution of the '247 Patent does not stand alone; family members had already been closely examined, setting the foundations for the patentable subject matter in the '247 Patent. Specifically, the applications of several related patents of the '247 Patent (U.S. Patent Nos. 10,219,196; 9,763,156; 9,215,636; 8,457,072; 8,130,720; and 7,046,648) were thoroughly examined by the same Examiner prior to examination of the application that led to the '247 Patent. For example, during the prosecution of related U.S. Patent No. 8,130,720 (“the '720 Patent”), the Examiner issued an office action on February 4, 2009, rejecting various

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claims under 35 U.S.C. § 103, citing U.S. Pat. No. 7,346,035 (“Lee”) in view of U.S. Pat. Pub. No. 2002/0191544 (“Cheng”). *See* Ex. 1013 at 419-424.

Similarly, during the prosecution of U.S. Patent No. 7,046,648 (“the ’648 Patent”), the Examiner issued an office action on June 1, 2005, rejecting claim 14 under 35 U.S.C. § 102, citing U.S. Pat. Pub. No. 2004/0202129 (“Kolding”), and further rejecting various other claims under 35 U.S.C. § 103, citing U.S. Pat. Pub. No. 2004/0219917 (“Love”) in view of U.S. Pat. Pub. No. 2005/0083888 (“Smee”). *See* Ex. 1012 at 41-53.

Along with Kolding, Love, and Smee, the Examiner specifically cited the following references in the rejection:

Notice of References Cited			Application/Control No. 10/962,720		Applicant(s)/Patent Under Reexamination ZHANG ET AL.	
			Examiner Brian Roberts		Art Unit 2662	Page 1 of 2
U.S. PATENT DOCUMENTS						
*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name		Classification
	A	US-2004/0219917	11-2004	Love et al.		455/436
	B	US-6,892,071	05-2005	Park et al.		455/436
	C	US-2004/0202129	10-2004	Kolding et al.		370/331
	D	US-2003/0081692	05-2003	Kwan et al.		375/295
	E	US-2004/0228313	11-2004	Cheng et al.		370/342
	F	US-2005/0083888	04-2005	Smee et al.		370/332
	G	US-2004/0219919	11-2004	Whinnett et al.		455/442
	H	US-2004/0203991	10-2004	Chen et al.		455/522
	I	US-2003/0161284	08-2003	Chen, Xiaobao X		370/331
	J	US-2005/0041694	02-2005	Liu, Jung-Tao		370/524
	K	US-2004/0085934	05-2004	Balachandran et al.		370/335
	L	US-2005/0048920	03-2005	Liu, Jung-Tao		455/063.1
	M	US-2003/0210668	11-2003	Malladi et al.		370/335

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★		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2004/0072567	04-2004	Cao et al.	455/442
	B	US-2005/0047354	03-2005	Zeira et al.	370/280

Ex. 1012 at 54-55.

Thus, as evidenced by the prosecution history of the '247 Patent and related patents, there was careful consideration by the Office of a large body of prior art references prior to the determination of the patentability of the claimed subject matter.

D. Summary of Petitioner's Proposed Grounds of Unpatentability and the References Cited

Petitioner contends that claims 1-20 would have been anticipated under pre-AIA 35 U.S.C. § 102. Petitioner further contends that claims 1-20 would have been obvious under pre-AIA 35 U.S.C. § 103. The Petition raises these grounds of alleged anticipation and/or obviousness based on five separate references:

1. R1-03-0285, Signaling for H-ARQ Operation ("Lucent");
2. US2004/0223507 ("Kuchibhotla");
3. US2005/0048920 ("Liu");
4. US6,359,877 ("Rathonyi");
5. US2003/0076783 ("Das").

Specifically, the Petition asserts the following grounds of alleged invalidity:

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Ground	Basis	Claims	References
1	§§102/103	1-2, 8, 11-12, 18	Lucent
2	§103	1-2, 8, 11-12, 18	Lucent in view of Liu
3	§103	9-10, 19-20	Lucent in view of Das
4	§103	9-10, 19-20	Lucent in view of Liu and Das
5	§103	1-7, 11-17	Kuchibhotla in view of Liu
6	§103	8, 18	Kuchibhotla in view of Liu and Lucent
7	§103	9-10, 19-20	Kuchibhotla in view of Liu, Lucent, and Das
8	§§102/103	1-2, 8, 11-12, 18	Lucent in view of Rathonyi
9	§103	1-2, 8, 11-12, 18	Lucent in view of Liu and Rathonyi
10	§103	9-10, 19-20	Lucent in view of Das and Rathonyi
11	§103	9-10, 19-20	Lucent in view of Liu, Das, and Rathonyi
12	§103	1-7, 11-17	Kuchibhotla in view of Liu and Rathonyi
13	§103	8, 18	Kuchibhotla in view of Liu, Lucent, and Rathonyi
14	§103	9-10, 19-20	Kuchibhotla in view of Liu, Lucent, Das, and Rathonyi

E. Petitioner’s Relied-Upon References

The five references relied upon by Petitioner to challenge the patentability of claims 1-20 of the ’247 Patent are summarized as follows:

1. Overview of Lucent (Ex. 1005)

3GPP submission entitled “Signaling for H-ARQ Operation,” (“Lucent”) was submitted by Lucent Technologies for 3GPP Meeting R1-03-0285 (February 18-21, 2003).

Lucent is directed to a method of encoding ACK/NACK by using NDI bits. As disclosed in section 3.1.3 of Lucent, Node-B transmits same values for NDI in consecutive communications with the UE to indicate a NACK. Lucent discloses that the UE receives the NACK embedded in the bits from the NDI and uses the NACK signaled by the NDI bits to determine whether to retransmit data blocks. See Lucent at 3.1.3.

However, as explained below, Lucent does not disclose determining to retransmit the data block based on the received uplink scheduling information. Instead, the UE of Lucent receives the NACK embedded in the bits from the NDI and uses the NACK signaled by the NDI bits to determine whether to retransmit data blocks.

2. Overview of Kuchibhotla (Ex. 1006)

U.S. Patent Publication No. 2004/0223507 (“Kuchibhotla”) is entitled “ACK/NACK determination reliability for a communication device” and was published on November 11, 2004.

Kuchibhotla is directed to preventing a mobile station from misinterpreting a NACK indication as an ACK in the presence of noisy channel: “the mobile may misinterpret a NACK indication from the BTS as an ACK, or vice versa. These problems are solved in the present invention.” Kuchibhotla at [0054]. Kuchibhotla discloses using a supplemental indicator in subsequent scheduling messages to expressly indicate whether the BTS expects new data rather than retransmitted data: “the present invention provides a supplementary indicator of message acceptability that is used in conjunction with the ACK/NACK information. In a first embodiment, the supplementary indicator is a New Data Expected (NDE) indicator that is sent in a subsequent scheduling assignment message (SAM) from the BTS.” Kuchibhotla at [0055].

Kuchibhotla provides several examples to illustrate the combination of NACK and NDE for deciding whether to retransmit a packet. For example, “[i]n this row, the MS also reads 614 the NACK properly along with the later transmitted (in the SAM) NDE which confirms the NACK. If the ACK/NACK and NDE disagreed, a

voting procedure 616 would be used, as will be explained below.” Kuchibhotla at [0074]. In a further example, “[h]owever, the MS has an error and misreads 1214 the NACK as an ACK, but correctly receives the NDE=0. The MS will then vote 1216 on the reliability.” Kuchibhotla at [0074].

However, as explained below, Lucent does not disclose determining to retransmit the data block based on the received uplink scheduling information. Instead, Kuchibhotla relies on reception of both the NACK and the NDE to make a decision as to whether to retransmit a packet.

3. *Overview of Liu (Ex. 1007)*

U.S. Patent Publication No. 2005/0048920 (“Liu”) is entitled “Method of control signaling in wireless communications” and was published on March 3, 2005.

Liu is directed to providing efficient control signaling. Liu at [0011]. Liu discloses using the HARQ ID in combination with redundancy version to specify the specific retransmission the remote terminal has to send for the specified HARQ ID. See Liu at [0033].

4. *Overview of Rathonyi (Ex. 1008)*

U.S. Patent No. 6,359,877 (“Rathonyi”) is entitled “Method and apparatus for minimizing overhead in a communication system” and was published on March 19, 2002.

Rathonyi discloses minimizing overhead in packet re-transmission in a communication system. Rathonyi at Abstract. Additionally, Rathonyi describes that each packet is given a sequence number, based on a current transmission rate, the size of the packet, and a previously assigned sequence number. *Id.*

5. Overview of Das (Ex. 1009)

U.S. Patent Publication No. 2003/0076783 (“Das”) is entitled “Adaptive hybrid retransmission method for wireless communications” and was published on April 24, 2003.

Das is directed to an adaptive Hybrid ARQ in which “multiple transmissions may need to be sent to the same user in the same frame. Multi-level acknowledgement/negative acknowledgments (ACK/NACKs) will therefore need to be sent to the transmitter separately for all the transmissions within a frame.” Das at [0024].

III. CLAIM CONSTRUCTION

For purposes of this proceeding, Petitioner has not identified any claim terms for construction as necessary to resolve the controversy. Rather, Petitioner states (and Patent Owner agrees) that the claims should be construed according to their plain and ordinary meaning. The district court in the co-pending litigation did not construe any terms from the ’247 Patent.

IV. LEGAL STANDARDS FOR INVALIDITY

A. Anticipation under 35 U.S.C. § 102

Anticipation under 35 U.S.C. § 102 requires that a single prior art reference disclose each and every limitation of the claimed invention. *Schering Corp. v. Geneva Pharms.*, 339 F.3d 1373, 1379-80 (Fed. Cir. 2003).

B. Obviousness under 35 U.S.C. § 103

A claim is not patentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the art at the time of the invention. 35 U.S.C. § 103(a) (pre-AIA). Obviousness requires assessing (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.” *KSR Int’l Co. v. Teleflex Inc.*, 550 US 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 US 1, 17-18 (1966)).

It is Petitioner’s burden “to demonstrate both ‘that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (quotations and citations omitted).

However, a petitioner must first show that all of the claimed elements are disclosed in the prior art. *See Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1164 (Fed. Cir. 2006) (considering motivation to combine and reasonable expectation of success only “if all the elements of an invention are found in a combination of prior art references”).

Obviousness of a patent cannot properly be established by mere conclusory statements. Instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. A reason for combining disparate prior art references is a critical component of an obviousness analysis. The obviousness analysis should be made explicit and needs to provide an articulated reasoning with some rational underpinning to identify the reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *See InTouch Techs., Inc. v. VGo Commc’ns, Inc.*, 751 F.3d 1327, 1347 (Fed. Cir. 2014).

V. DISCRETIONARY FACTORS FAVOR DENIAL OF INSTITUTION

The Petition should be denied pursuant to the Director’s discretion to deny institution of petitions. First, the Petition should be denied pursuant to 35 U.S.C. § 314(a) according to the factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020). The PTAB has the authority, where warranted, to

exercise discretion to deny institution in view of the *Fintiv* factors particularly where, as here, the merits of the challenge are not compelling (*see infra*, Section VI). *See* “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings With Parallel District Court Litigation,” issued June 21, 2022 (“Director’s Guidance”).

Second, the Petition should be denied pursuant to 35 U.S.C. § 325(d) because the Petition relies upon the “same or substantially the same art previously [] presented to the Office” and fails to demonstrate “that the Office erred in a manner material to the patentability of the challenged claims.” *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6, 8 (PTAB, Feb. 3, 2020) (precedential); *see also Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8, pp. 17-18 (PTAB Dec. 15, 2017) (Precedential).

Thus, the Petition would be neither an “effective [nor] efficient alternative” to the ongoing litigation, and would not be an efficient use of Board resources, and on these bases should be discretionarily denied. *See Gen. Plastic Indus.*, IPR2016-01357, Paper 19 at 16-17.

A. Application of *Fintiv* Factors Weighs in Favor of Denying Institution

There is no requirement to institute an IPR. *See, e.g., Harmonic Inc. v. Avid Tech.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016); *see also Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016); 37 C.F.R. § 42.108(a). Guidance from the Director states that the purpose of discretionary denial is to “limit unnecessary and counterproductive litigation costs” and avoid gamesmanship. *See* Memorandum on Interim Procedure for Discretionary Denial from Katherine K. Vidal, Director of the USPTO, at 1 (June 21, 2022). This guidance has also clarified the application of the so-called *Fintiv* factors to circumstances such as these, where there is a co-pending District Court Action.¹ *Id.*

For the grounds presented in this Petition, instituting an IPR would not be an effective or efficient alternative to litigation because, most notably, the co-pending District Court Action (1) involves substantially the same prior art that LGE relies on here, and (2) will be complete well before a final written decision in this proceeding. Furthermore, LGE is asking the Board to consider a staggering **fourteen** asserted grounds of invalidity in this IPR Petition. This is well beyond the normal limits of a

¹ Here, the co-pending District Court Action is *Pantech Corp. v. LG Electronics Inc.*, No. 5:22-cv-00113-RWS (E.D. Tex.).

IPR petition and thus puts an increased burden on the Board to complete review of such a voluminous Petition within the statutory timeframe. When considered within a thorough analysis of the *Fintiv* factors, any slim (if any) merits of this petition fail to weigh in favor of institution. Rather, the merits of LGE’s invalidity challenge are best addressed in the District Court Action, and therefore, the Board should exercise its discretion to deny institution.

1. The Court Has Not Stayed the District Court Action

Regarding the first *Fintiv* factor (“whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted”), a stay has not been granted in the District Court Action, and Petitioner has not filed a motion to stay in view of this Petition. And while Petitioner has made the bare statement that it “intends to seek a stay” if this IPR is granted (*see* Petition at 12), there is no evidence that Petitioner’s not-yet-made request would be granted even if made—and Petitioner has offered absolutely none.

While the Board “will not attempt to predict” how the district court will proceed in the absence of specific evidence (*Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR 2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative)), it bears mentioning that the evidence indicates that a stay will not be granted. First, even if this IPR is instituted, the projected final written decision

will not occur until April, 2025—approximately seven months after the scheduled trial date in the District Court Action.² In similar circumstances, this district court routinely denies motions to stay. The District Court’s decision in *Maxell Ltd. v. Apple Inc.*, No. 5:19-CV-00036-RWS, 2020 U.S. Dist. LEXIS 257531, at *7-9 (E.D. Tex. April 27, 2020), explained that a stay should not be granted because the case was filed “more than a year ago” (as would be true with this litigation) and because trial is scheduled for six months after the order (the September trial date would be even closer to any decision on institution). *See also Kirsch Research and Development LLC v. DuPont de Nemours, Inc.*, Dkt. 269, No. 5-20-cv-00057-RWS (E.D. Tex. July 7, 2021) (similar analysis following *Maxell* and noting the advanced stage of litigation). Second, the District Court has already denied a different request by Petitioner to stay the litigation (for reasons unrelated to any *inter partes* review), stating that a stay “would unjustly delay the progress of the case and harm Pantech’s interests in timely resolution.” *See Pantech Corp. v. LG Electronics Inc.*, No. 5:22-cv-00113-RWS, Dkt. 131 at 1 (E.D. Tex., July 19, 2023). The Court has thus

² Jury trial is scheduled for September 23, 2024. *See Pantech Corp. v. LG Electronics, Inc.*, No. 5:22-cv-00113-RWS, Dkt. 240 at 2 (E.D. Tex., Jan. 22, 2024) (attached as Ex. 2017).

demonstrated its intent to proceed to trial in a timely manner. As such, there has been no suggestion that the trial would not occur as currently scheduled in September 2024.

As such, the evidence indicates that a stay will not be granted in the future even if Petitioner requests one, and this *Fintiv* factor weighs in favor of denial.

2. The Trial Date in the District Court Action Precedes the Projected Final Written Decision Date

Regarding the second *Fintiv* factor (“the proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision”), the projected final written decision date is in late April, 2025, well after the scheduled September 23, 2024 trial date in the District Court Action. In fact, the trial date is even before any reply would be due from Petitioner (late October, 2024) and prior to the final oral hearing, should *inter partes* review be granted.

While Petitioner correctly states that the median time to trial in the Eastern District of Texas “varies between 19 and 24 months” (see Petition at 12, citing Ex. 1025), 24 months after the filing date is September 2, 2024. That is before the currently-scheduled trial date (meaning the current schedule is already longer than the average). Petitioner’s alternative citation to privately gathered statistics from *Docket Navigator* indicating a median time to trial of 26 both exceeds the guidance from the USPTO Director of what statistics will be considered (see Memo from

Katherine K. Vidal at 9 n. 12 (June 21, 2022)) and also does not meaningfully change the analysis—November 11, 2024 (the date using these statistics) would still be many months before the projected statutory deadline for a final written decision. Regardless, the statistics about averages are irrelevant here because a trial date has been set and there has been no indication that it would move in any significant way beyond the currently scheduled date.

Accordingly, this *Fintiv* factor also weighs in favor of denial.

3. The Parties Have Invested Substantial Efforts in Litigating the Grounds Presented in this Petition in the District Court Action

Regarding the third *Fintiv* factor (“investment in the parallel proceeding by the court and the parties”), the parties have significantly invested in the District Court Action. For example, the parties have served and responded to discovery including making large document productions, engaged in early motion briefing, a hearing on a motion to dismiss (with related briefing and a denied motion for reconsideration), engaged in full claim construction briefing and depositions of experts relating to claim construction, and received a claim construction order. Fact discovery has concluded.

Most notably, expert reports on invalidity are due to be served on February 21, 2024, with expert discovery on validity concluding by April 10, 2024—expert

discovery will therefore be complete by the time of any institution decision. *See* Exhibit 2017 at 3. As addressed below in the context of the fourth *Fintiv* factor, the grounds of invalidity disputed by the parties in the District Court Action are substantially the same as Petitioner presents here. Thus, the parties have already (or shortly will have) invested many of the same resources into the District Court Action that Petitioner seeks to bring into this dispute. Institution would be a waste of party and judicial resources, precisely what discretionary denial seeks to avoid. *See* Memo from Katherine K. Vidal at 1 (June 21, 2022).

This *Fintiv* factor also weighs in favor of denial.

4. The District Court Action will Consider Substantially the Same Grounds as Presented in this Petition

Regarding the fourth *Fintiv* factor (“overlap between issues raised in the petition and in the parallel proceeding”), most of the fourteen grounds of alleged invalidity asserted in this Petition are already being litigated in the District Court Action, with the difference of only a single secondary reference (Das) for some grounds.

Indeed, each of Lucent, Kuchibhotla, Rathonyi, and Liu (*i.e.*, both primary prior art references and each secondary reference except for Das) is being asserted as a basis of invalidity in the District Court Action. Ex. 2018 (LGE’s Invalidity Contentions) at 55-71.

Moreover, Petitioner has not offered any *Sotera*-type stipulation or made any effort to avoid duplicative proceedings.

Given that the Petition is directed toward the same claims, substantially the same art, similar arguments, and significantly overlapping evidence at issue in the parallel District Court Action, and since Petitioner has not sought to mitigate any of these concerns through a *Sotera* stipulation, this *Fintiv* factor favors denial of institution.

5. The Parties are the Same in the District Court Action

Regarding the fifth *Fintiv* factor (“whether the petitioner and the defendant in the parallel proceeding are the same party”), LG Electronics Inc. is both Petitioner here and a defendant in the District Court Action. The Petition acknowledges this. *See* Petition at 4. This *Fintiv* factor thus also weighs in favor of denial.

6. Other Circumstances Also Weigh in Favor of Discretionary Denial

Regarding the sixth *Fintiv* factor (“other circumstances that impact the Board's exercise of discretion, including the merits”), while petitioner avers that “[t]he merits of this Petition are compelling as shown herein” (*see* Petition at 12), as set forth below in Section VI, the weakness of the proposed grounds weighs strongly in favor of denial of institution.

But even if there are some merits to Petitioner’s shotgun, fourteen-ground

challenge (and there are not), “[w]here the information presented at the institution stage is merely sufficient to meet the statutory institution threshold [a reasonable likelihood of success], the PTAB has the authority, where warranted, to exercise discretion to deny institution in view of the other *Fintiv* factors.” Memo from Katherine K. Vidal at 4 (June 21, 2022). Petitioner has certainly failed to meet the higher threshold of a “compelling” unpatentability challenge, and the number of references in some of its asserted grounds, (up to five), call into question how “compelling” its arguments are.

In addition, institution should be denied because of the excessive number of grounds presented in this petition that also lack particularity. The efficient administration of the Office, the integrity of the patent system, and the Board’s ability to timely complete the requested review, and the undue burden that the number of prior art combinations asserted in the Petition places upon Patent Owner and the Board support denial of institution. “[W]here a petition contains voluminous or excessive grounds, Office guidance indicates ‘[t]he panel will evaluate the challenges and determine whether, in the interests of efficient administration of the Office and integrity of the patent system (see 35 U.S.C. § 316(b)), the entire petition should be denied under 35 U.S.C. § 314(a).’” *Energysource Minerals LLC v. Terralitim LLC*, IPR2019-00607, Paper 10, at 11 (PTAB May 4, 2020) (quoting

SAS Q&As, Part D, Effect of SAS on future challenges that could be denied for statutory reasons (June 5, 2018)).

Here, the Petition challenges 20 claims, based on five references, across 14 grounds. Ground 1 also merges both anticipation and obviousness. The petition in the informative *Adaptics* decision, by contrast, asserted ten prior art references against nine patent claims in only five grounds. *Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20, at 2, 6 (PTAB Mar. 6, 2019) (informative) (“*Adaptics*”). In *Adaptics*, the use of the conjunction in a “catch-all” ground resulted in “seventeen possible combinations” of prior art references, which represented an “unduly burdensome” number of challenges. *Adaptics*, Paper 20 at 9, 13, 14, 19. The instant Petition asserts at least 14 prior art combinations. Petitioner’s Grounds 8-14 also suffer from a lack of particularity. Grounds 8-14 apply *Rathonyi* to Grounds 1-7 without providing any clear explanation or motivation to combine the references. Accordingly, the Board should exercise its discretion under 35 U.S.C. § 314(a) and deny the Petition.

Accordingly, the sixth *Fintiv* factor also weighs against institution.

* * *

As described above, every single one of the six *Fintiv* factors weighs against institution of this Petition. The USPTO should exercise its discretion not to institute

an *inter partes* review in view of the advanced stage of the District Court Action proceeding on substantially the same grounds, as well as the other considerations described herein.

B. 35 U.S.C § 325(d) Weighs in Favor of Denying Institution

The Board should also deny institution under § 325(d) because the petition argues the “same or substantially the same art previously [] presented to the Office” and fails to demonstrate “that the Office erred in a manner material to the patentability of the challenged claims.” *Advanced Bionics*, IPR2019-01469, Paper 6, 8 (PTAB Feb. 3, 2020) (precedential). “Previously presented art includes art made of record by the Examiner, and art provided to the Office by an applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent.” *Id.* at 7-8. Further, the Board has construed “previously presented” in 35 U.S.C. § 325(d) to refer to art and arguments presented to the Office prior to the filing of the petition at issue. *Ironsource Ltd. v. Digital Turbine Inc.*, PGR2021- 00096, Paper 14 at 52 (PTAB Jan. 6, 2022).

1. *The Same Or Substantially The Same Art Was Previously Presented To The Office*

The overlap between the IPR-asserted references and those submitted during the '247 Patent prosecution and prosecution of related applications meets the first part of the two-part *Advanced Bionics* framework, which considers the similarities

and material differences between the two sets of art, the cumulative nature of the art, and the extent of the overlap between the arguments. *Becton, Dickinson & Co.*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph) (factors (a), (b), and (d)).

Regarding Liu and Kuchibhotla (references used in most Grounds presented by this petition), these references were considered during the prosecution of the '247 Patent (along with that of the related patents discussed above in Section II.C). This consideration is discussed in Section II.C above, but notably, Liu and Kuchibhotla were cited in an IDS on August 31, 2020 (*see* Ex. 1002 at 34-35) and were cited again alongside the final Notice of Allowance on October 15, 2020, when the Examiner acknowledged that “[a]ll references considered except where lined through” (*see* Ex. 1002 at 147-157 (Liu and Kuchibhotla were not lined through)). Indeed, both Liu and Kuchibhotla are listed on the face of the '247 Patent. *See* Ex. 1001 at 2. This consideration satisfies Part 1 of *Advanced Bionics*.

Petitioner argues that “though the Applicant identified Liu and Kuchibhotla’s disclosure in information disclosure statements (IDSs) listing hundreds of other references, the Examiner did not substantively discuss these references in any office action rejection during the prosecution of the '247 or any of its ancestors, much less consider any of the disclosures cited by Petitioner in this Petition.” Petition at 10.

However, Petitioner gets the law wrong: the citation alone of Liu and Kuchibhotla satisfies Part 1 of the *Advanced Bionics* framework. See *Clim-A-Tech Ind., Inc. v. William A. Ebert*, IPR2017-01863, Paper 13, at 18-19 (PTAB Feb. 12, 2018) (denying institution even though the ‘Examiner did not base a rejection’ on the reference asserted in the petition); *Biocon Pharma Ltd. v. Novartis Pharm. Corp.*, IPR2020-01263, Paper 12, 9 (PTAB Feb. 16, 2021) (holding that cited but unapplied references supported denying institution); *Sony Interactive Entm’t LLC v. Terminal Reality, Inc.*, IPR2020-00711, Paper 15, at 11 (PTAB Oct. 13, 2020) (finding reference was previously considered by the PTO because it was listed in the Examiner’s Notice of References Cited).

Regarding the other primary reference relied upon by this Petition, Lucent, its teachings (and especially those teachings cited by Petitioner) are substantively similar to art already considered by the Office. Specifically, the relevant teachings of Lucent are substantively similar to those of Khan (Ex. 1010), which was relied upon by the Examiner during initial rejections of the ’247 Patent’s claims. See Ex. 1002 at 421, 471, 524.

For example, Petitioner generally relies on Lucent for its disclosure of a system of encoding ACK/NACK by using New Data Indicator (NDI) bits. See Petition at 16-17. More specifically, as to key limitations in the independent claims,

[1.e] and [11.c], Petitioner alleges that Lucent meets the claim requirements because it allegedly teaches that a Node-B transmits values for NDI in communications with the UE to indicate a NACK. *Id* at 25; *see also* Lucent at 3.1.1. But Khan provides substantively the same teachings: Khan also teaches that communications between a Node-B and UE should include a ACK/NACK channel to support HARQ operation, along with encoded feedback information to improve ACK/NACK reliability, and does so within the context of a similar communication system. *See* Khan (Ex. 1010) at [0002], [0003] (“Furthermore, a more reliable acknowledgement/negative-acknowledgement feedback transmission is provided because the feedback information can be coded along with the other forward control channel information”). This too satisfies Part 1 of the *Advanced Bionics* framework. *See Advanced Bionics*, IPR2019-01469 at Paper 8; *Nokia of America Corp. v. Alexander Soto and Walter Soto*, IPR2023-00681, Paper 10, 23 (PTAB Nov. 3, 2023) (denying institution as obviousness arguments were substantially the same as previously evaluated by the Office).

Finally, Part 1 is met as to the remaining secondary references that Petitioner relies upon (Das and Rathonyi) because their teachings are also duplicative of the teachings of Khan that were considered by the Office. For example, Petitioner relies on Das for its alleged disclosure of a general “modulation and coding scheme.” *See*

Petition at 34-36. Yet, this teaching of “modulation and coding” is disclosed by Khan and previously considered by the Office:

In the evolving wireless data systems, such as the well-known 1x-EV-DO and 1xEV-DV standards as well as the High Speed Downlink Packet Access (HSDPA) specification in the Universal Mobile Telecommunication System (UMTS) standard (often collectively referred to as 3G Standards), the forward link (base station to mobile station(s)) capacity has been increased by using techniques Such as fast **Scheduling, adaptive modulation and coding (AMC) and hybrid ARQ (HARQ)**. In general, a scheduler, for example in the base Station, Selects a user for transmission at a given time and adaptive modulation and coding allows selection of the appropriate transport format (modulation and coding) for the current channel conditions seen by the user.

Khan (Ex. 1010) at [0001] (emphasis added); *see also* Ex. 1002 at 423 ('247 Patent prosecution history considering Khan for this teaching); Ex. 1013 at 419-424 ('720 Patent prosecution history considering Khan); Ex. 1012 at 41-53 ('648 Patent prosecution history considering Khan). Additionally, Rathonyi is only used for its disclosures of a “transceiver” and “processing unit” (*see* Petition at 71-73), which are taught by the relied-upon references, including Khan. *See* Ex. 1010 at [0025]-[0026] (discussing transmission and processing by the mobile station). Thus,

Petitioner's use of Das and Rathonyi does not introduce any concepts or teachings not already considered by the Office.

Accordingly, Part 1 of the *Advanced Bionics* framework has been met as to all references cited by the Petition.

2. *Petitioner Failed To Demonstrate A Material Error By The Office*

Petitioner fails to argue any material error by the Office in its perfunctory §325(d) analysis.

The lack of argument is ostensibly based on Petitioner's argument that that none of the cited art was examined during prosecution. *See* Petition at 11. But this is incorrect as a legal premise. *See Biocon Pharma Ltd. v. Novartis Pharm. Corp.*, IPR2020- 01263, Paper 12, 9 (PTAB Feb. 16, 2021) (holding that cited but unapplied references supported denying institution); *Sony Interactive Entm't LLC v. Terminal Reality, Inc.*, IPR2020-00711, Paper 15, at 11 (PTAB Oct. 13, 2020) (finding reference was previously considered by the PTO because it was listed in the Examiner's Notice of References Cited).

As such, because Part 1 is met as to all of Petitioner's prior art, Petitioner was required to address Part 2 as to each reference. However, Petitioner's lack of analysis is insufficient to meet the second part of the *Advanced Bionics* test. *See Advanced Bionics*, IPR2019- 01469, Paper 6, 8; *Albany Int'l Corp.*, PGR2021-00019, Paper

22, 8-9 (denying institution because “[i]f a condition in the first part of the framework is satisfied and the petitioner fails to make a showing of material error, the Director generally will exercise discretion not to institute [] review.”). Accordingly, denial under §325(d) is appropriate.

**VI. THE PETITION DOES NOT SHOW A REASONABLE
LIKELIHOOD OF PREVAILING WITH RESPECT TO ANY
CHALLENGED CLAIM**

The Petition should be denied because it does not establish a reasonable likelihood of prevailing on any of the asserted grounds against any of the challenged claims.

**A. Ground 1: Petitioner Fails To Establish That Claims 1-2, 8, 11-12,
and 18 are Anticipated AND/OR Rendered Obvious By Lucent**

Petitioner has not shown a likelihood of prevailing with respect to Ground 1 because Lucent does not teach each and every element of Claims 1-2, 8, 11-12, and 18. Specifically, Lucent does not teach elements [1.e] (or comparable element [11.c]), as required for each of these claims.

**1. Lucent fails to disclose claim element [1.e] “determine
whether to retransmit the data block based on the received
uplink scheduling information and not based on ...”**

Petitioner fails to show that Lucent discloses UE determining whether to **retransmit the data block based on the received uplink scheduling information** and not based on whether the WTRU has received a negative acknowledgement

(NACK) from the base station, as required by claim element [1.e] (and comparable element [11.c]).

Lucent is directed to a method of encoding ACK/NACK by using New Data Indicator (NDI) bits. Ex. 1005 at 3. In particular, Lucent discloses a method to use a NACK message to determine retransmission instead of using the uplink scheduling information to determine the retransmission, as required by the claim element [1.e]. Ex. 1005 at 2. In addition, Lucent discloses that Node-B transmits same values for NDI in consecutive communications with the UE to indicate a NACK. Ex. 1005 at 4. Thus, the UE of Lucent receives the NACK embedded in the bits from the NDI and uses the NACK signaled by the NDI bits to determine whether to retransmit data blocks – but this is different than using scheduling information to determine the transmission, as required by the claim element [1.e]. *Id.*

Petitioner appears to acknowledge that Lucent does not explicitly disclose a UE is relying on uplink scheduled information to determine data retransmission when it concludes in a cursory fashion that “[a] POSITA would have understood, and at minimum found obvious, that Lucent’s processor working with its transceiver (see [1.a]-[1.b]) is configured to cause the UE to determine whether to retransmit the data block based on the scheduling grant message and not based on whether the UE received a NACK from the Node-B.” Petition at 19. But, as stated above, Lucent is

directed to a method of encoding ACK/NACK by using NDI bits and discloses a method where NACK is used to determine data retransmission and not the uplink scheduling information, as required by the claims 1 and 11 of the '247 Patent.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 1 and institution should be denied.

B. Grounds 2: Petitioner Failed To Establish That Claims 1-2, 8, 11-12, and 18 are Rendered Obvious By Lucent in View of Liu

For Ground 2, Petitioner attempts to use the Liu reference to fill in the various gaps of the teachings of Lucent, as shown above with regard to Ground 1. *See generally* Petition at 31-33. However, Liu also does not overcome the deficiencies of Lucent. Specifically, the combination of Lucent and Liu does not render obvious the claimed “determine whether to retransmit the data block based on the received uplink scheduling information and not based on whether the WTRU has received a negative acknowledgement (NACK) from the base station” as required by the claim element [1.e]. Therefore, Liu does not cure the deficiencies of Lucent. *Id.*

In particular, Petitioner’s proposed motivation to combine Lucent and Liu is erroneous because this proposed modification of Lucent by Liu simply would not work. For example, Liu discloses a frame structure to transmit over Enhanced Uplink-Shared Control Channel (EU-SCCH) to carry information such as NDI and HARQ channel ID. Ex. 1007 at [0025]-[0031]. A POSITA would not combine Liu

with Lucent, because Lucent relies on consecutive NDI for purpose of encoding the NACK to determine and specify the retransmission, while Liu discloses using the HARQ ID in combination with redundancy version to specify the retransmission that the remote terminal has to send for the specified HARQ ID. *See* Liu at [0033]. Hence, a POSITA would consider these technologies mutually exclusive, as a POSITA would either use Liu's NDI to determine whether data is to be sent, or use Lucent's encoded NACK to determine retransmission.

Therefore, because Liu cannot overcome the deficiencies of Lucent with respect to the challenged independent claims of the '247 Patent, Petitioner has failed to establish a reasonable likelihood of success of any claim in Ground 2.

C. Grounds 3-4: Petitioner Failed To Establish That Claims 9-10 and 19-20 are Rendered Obvious Over Lucent in view of Liu and Das

For Ground 3, Petitioner attempts to use Das to fill in the various gaps of the teachings of Lucent with regard to the dependent claims of the '247 Patent. *See generally* Petition at 34-37. However, Petitioner's proposed combination of Lucent and Das would be contradictory and simply would not work.

Specifically, Petitioner has not shown how a POSITA would have combined the teachings of Lucent with at least the teachings of Das with any expectation of success. Lucent is directed to Hybrid ARQ. In contrast, Das is directed to an adaptive Hybrid ARQ in which "multiple transmissions may need to be sent to the same user

in the same frame. Multi-level acknowledgement/negative acknowledgments (ACK/NACKs) will therefore need to be sent to the transmitter separately for all the transmissions within a frame.” Das at [0024]. In addition, there is no showing of how a POSITA would use the NDI bits of Lucent to represent the multi-level ACK/NACK of Das. Hence, a POSITA would know that the Das’s multi-level ACK/NACK method would simply not work with Lucent’s Hybrid ARQ.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Grounds 3-4 and institution should be denied.

D. Ground 5: Petitioner Failed To Establish That Claims 1-7 and 11-17 are Rendered Obvious Over Kuchibhotla in view of Liu

Petitioner has not shown a likelihood of prevailing with respect to Ground 5 because Kuchibhotla does not teach each and every element of Claims 1-7 and 11-17. Specifically, Kuchibhotla does not teach elements [1.e] (or comparable elements [11.c]), as required for each of these claims.

1. Kuchibhotla fails to disclose claim element [1.e] “determine whether to retransmit the data block based on the received uplink scheduling information and not based on ...”

Petitioner fails to show that Kuchibhotla discloses UE determining whether to **retransmit the data block based on the received uplink scheduling information** and not based on whether the WTRU has received a negative acknowledgement (NACK) from the base station, as required by claim element [1.e] (and comparable

element [11.c]). In particular, Kuchibhotla relies on reception of both the NACK and the NDE to make a decision as to whether to retransmit a packet, in contrast to relying on uplink scheduling information to retransmit the data, as required by claims 1 and 11 of the '247 Patent.

Kuchibhotla is directed to preventing a mobile station from misinterpreting a NACK indication as an ACK in the presence of a noisy channel. Kuchibhotla at [0054] (“the mobile may misinterpret a NACK indication from the BTS as an ACK, or vice versa. These problems are solved in the present invention”). Kuchibhotla discloses using a supplemental indicator in subsequent scheduling messages to expressly indicate whether the BTS expects new data rather than retransmitted data. Kuchibhotla at [0055] (“the present invention provides a supplementary indicator of message acceptability that is used in conjunction with the ACK/NACK information. In a first embodiment, the supplementary indicator is a New Data Expected (NDE) indicator that is sent in a subsequent scheduling assignment message (SAM) from the BTS”).

However, Kuchibhotla does not disclose “retransmit[ting] the data block . . . not based on whether the WTRU has received a negative acknowledgement (NACK),” as required by claim element [1.e]. Rather, Kuchibhotla uses the received NACK in combination with the NDE to make a decision as to whether retransmit a

packet. Kuchibhotla at [0055] (“following the reception of ACK/NACK information on the ACK/NACK channel, the MS does not flush data in its buffer until a NDE is received in a subsequent SAM. By coupling the both the ACK/NACK information and the NDE indicator, the mobile is able to make a more reliable conclusion regarding the success of the previous transmission”).

Thus, Kuchibhotla relies on reception of both the NACK and the NDE to make a decision as to whether to retransmit a packet, in contrast to relying on uplink scheduling information to retransmit the data, as required by claims 1 and 11 of the ’247 Patent.

Additionally, Liu also does not cure deficiency of Kuchibhotla. Liu discloses a frame structure to transmit over EU-SCCH to carry information such as NDI and HARQ channel ID. Liu does not disclose to “determine whether to retransmit the data block based on the received uplink scheduling information and not based on whether the WTRU has received a negative acknowledgement (NACK) from the base station” as required by the claim element [1.e].

In addition, a POSITA would not combine Liu with Kuchibhotla, because there is no suggested modification of the frame structure of Liu to carry the NDE (New Data Expected) indicator of Kuchibhotla in conjunction with the channel quality indicator of Kuchibhotla. Kuchibhotla requires “using channel quality and

“new data expected” indicators in a scheduling assignment message from a BTS to a communication device (MS).” Kuchibhotla at [0040]. In contrast, the downlink subframe in Fig. 5 of Liu has a specific number of bits that have been allocated to HARQ ID, Redundancy version, Transport Format, Transport Block Size, New/Continue data indicator, and Pilot boost/deboost. See Liu at [0036]-[0044]. Petitioner failed to explain how the downlink subframe in Fig. 5 of Liu can be modified to also carry the channel quality information that Kuchibhotla requires for operation.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 5 and institution should be denied.

E. Ground 6: Petitioner Failed To Establish That Claims 8 and 18 are Rendered Obvious Over Kuchibhotla in view of Liu and Lucent

As discussed above, the combination of Kuchibhotla and Liu lacks motivation for a POSITA. Any additional combination with Lucent does not (and cannot) cure this lack of motivation.

Furthermore, Lucent and Kuchibhotla are directed to incompatible approaches for ACK/NACK control with corresponding requirements. Kuchibhotla, specifically, relies on NDE and channel quality indicator in a scheduling assignment for control ACK/NACK. Kuchibhotla at [0055]. In contrast, Lucent relies on

consecutive NDI to signal ACK/NACK in the case of Node-B controlled scheduling. Lucent at 4. Modifying Kuchibhotla using Lucent would force Kuchibhotla to operate in accordance with the teachings of Lucent, which would be in conflict with the express teachings of Kuchibhotla that require the NACK and the NDE to determine retransmission. Kuchibhotla at [0055]. A POSITA would not expect that the quality channel indicator of Kuchibhotla can be taken into consideration when using the NDI bits of Lucent to signal ACK/NACK.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 6 and institution should be denied.

F. Ground 7: Petitioner Failed To Establish That Claims 9-10 and 19-20 are Rendered Obvious Over Kuchibhotla in view of Liu, Lucent, and Das

Petitioner has not shown how a POSITA would have combined the teachings of Lucent with at least the teachings of Das in addition to Kuchibhotla and Liu with any expectation of success. Lucent is directed to Hybrid ARQ. In contrast, Das is directed to an adaptive Hybrid ARQ in which “multiple transmissions may need to be sent to the same user in the same frame. Multi-level acknowledgement/negative acknowledgments (ACK/NACKs) will therefore need to be sent to the transmitter separately for all the transmissions within a frame.” Das at [0024]. There is no showing on how a POSITA would use the NDI bits of Lucent to represent the multi-

level ACK/NACK of Das. Hence, a POSITA would know that the Das's multi-level ACK/NACK method would simply not work with Lucent's Hybrid ARQ.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 7 and institution should be denied.

G. Grounds 8-14: Petitioner Failed To Establish That Claims 1-20 are Rendered Obvious Over Grounds 1-7 in view of Rathonyi

Petitioner does not rely upon Rathonyi in relation to the challenged claim limitations above, and therefore this reference cannot possibly cure those deficiencies. *See generally* Petition at 71-73. Hence, for the same reasons as discussed above for Grounds 1-7 with respect to Lucent, Liu, Das, and Kuchibhotla, Petitioner's Grounds 8-14 obviousness combinations also fail.

VII. CONCLUSION

For the reasons set forth above, the Board should not institute *inter partes* review on any of the grounds set forth in the Petition. As Patent Owner has shown, Petitioner has not established a reasonable likelihood that the cited references render any of the challenged claims of the '247 Patent unpatentable.

Dated: January 29, 2024

Respectfully submitted,

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Case IPR2023-01270
Patent No. 10,869,247
Patent Owner Preliminary Response

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Patent Owner Preliminary Response

CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of January, 2024, a copy of the attached **PATENT OWNER PRELIMINARY RESPONSE** was served by electronic mail to the attorneys of record, at the following addresses:

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Case IPR2023-01270
Patent No. 10,869,247
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CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

Pursuant 37 CFR 42.24(d), the undersigned certifies that this Preliminary Response complies with the type-volume limitation of 37 CFR §42.24(a). The word count application of the word processing program used to prepare this Preliminary Response indicates that the Preliminary Response contains 8,868 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

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