

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS INC.,
Petitioner,

v.

PANTECH CORPORATION,
Patent Owner

Case: IPR2023-01269

U.S. Patent No. 9,854,545

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	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 1 (Complaint).
2003	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 15 (LGE SEALED Motion to Disqualify) (Confidential).
2004	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 93 (Magistrate Order Regarding LGE's Motion for Disqualification) (Confidential).
2005	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 160 (Order Regarding LGE's Motion for Disqualification) (Confidential).
2006	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 102 (SEALED Defendants' Rule 72 Objections to the Order Regarding Disqualification) (Confidential).
2007	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 103 (SEALED Pantech Objections to Order Denying DQ) (Confidential).
2008	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 111 (SEALED Pantech Response to LGE Objections to Order Denying Disqualification) (Confidential).
2009	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 113 (SEALED LGE's Opposition to Plain-tiffs' Rule 72 Objections) (Confidential).
2010	(Reserved)

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2011	November 18, 2019 Declaration of Juseong Ryu (Confidential)
2012	ABA Formal Opinion #05-436
2013	3GPP TS 36.321
2014	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 45 (Pantech’s Response to LGE’s Motion to Disqualify) (Confidential).
2015	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 54 (SEALED Reply ISO Motion to Disqualify) (Confidential).
2016	Pantech Corp. v. LG Electronics Inc., Case No. 5:22-cv-00113 (E.D. Tex.), Dkt. 60 (SEALED Sur-reply ISO Response to Motion to Disqualify Mayer Brown) (Confidential).
2017	U.S. Patent. Pub. No. 2009/0279495 to Yoo (“Yoo”)
2018	U.S. Patent Pub. No. 2012/0008600 to Marinier et al. (“Marinier”)
2019	U.S. Patent Pub. No. 2008/0268850 to Narasimha et al. (“Narasimha”)
2020	U.S. Patent No. 11,012,954
2021	File History of U.S. Patent Application No. 16/733,106
2022	U.S. Patent No. 11,659,503
2023	File History of U.S. Patent Application No. 17/322,832
2024	Claim Construction Order from Pantech Corp. v. LG Electronics Inc., No. 5:22-cv-00113-RWS, Dkt. 215 (E.D. Tex. Oct. 23,

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2026	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 Corporation (“Patent Owner”) respectfully requests that United States Patent and Trademark Office (“USPTO” or the “Office”) Patent Trial and Appeal Board (“PTAB” or the “Board”) deny institution of claims 2-3 (the “challenged claims”) of U.S. Patent No. 9,854,545 (“the ’545 Patent”). Petitioner LG Electronics, Inc. (hereinafter “Petitioner” or “LGE”) failed to demonstrate that its Petition would be efficient or effective in view of prior arguments that have been considered by the Office and that will be shortly considered in a parallel district court proceeding, or that it has a reasonable likelihood of prevailing with respect to at least one challenged claim.

First, discretionary denial under both 35 U.S.C. § 314(a) and § 325(d) is warranted. Regarding 35 U.S.C. § 314(a), trial in the parallel district court proceeding is scheduled for September 2024, before even a reply would be due from Petitioner (late October 2024). Further, expert discovery—covering the same references presented in this Petition with the exception of a single secondary reference—will conclude prior to any institution decision. Petitioner has not offered any *Sotera*-type stipulation to alleviate concerns of duplicative litigation, nor is a stay likely in the district court. Accordingly, institution would not be in furtherance

of an efficient alternative to district court litigation. Rather, in these circumstances, *inter partes* review would merely duplicate the disputes between the parties.

Regarding 35 U.S.C. § 325(d), the Petition’s grounds rely on art that is either the same or substantially the same as the art presented to and cited by the Examiner in the prosecution of this patent and related U.S. patents, and thus the same teachings Petitioner is relying on were already considered by the Office. Petitioner also does not demonstrate any error made by the Office during prosecution. Accordingly, discretionary denial under § 325(d) is appropriate based on the *Advanced Bionics* framework.

Finally, Petitioner fails to show a reasonable likelihood of prevailing on any Ground. Petitioner has not shown that either of its primary Grounds—Tenny and Qualcomm in view of TS36.331 (Grounds 1 and 2)—is likely to render the challenged claims unpatentable. Tenny is the sole reference at issue in Ground 1, and it does not disclose a UE that transmits a random access preamble and receives a random access response in connection with obtaining timing information in the manner claimed. Petitioner concedes that Tenny does not do so “explicitly,” Pet. at 69, and also does not argue that it does so inherently. In fact, Tenny does not teach every claimed aspect of the challenged claims. Qualcomm is the primary reference in Ground 2, and Petitioner does not address the meaningful differences in its

disclosure regarding the manner in which timing information is delivered to the UE. Petitioner therefore has not shown that it would be obvious to a POSITA that the timing information would be delivered in a random access response, as claimed. Ground 2 thus likewise fails. And although Grounds 3-8 purport to combine additional references with Tenny and Qualcomm, none of them overcome Tenny and Qualcomm's shortcomings.

For at least these reasons, Petitioner has failed to meet its burden of showing a reasonable likelihood of prevailing. Accordingly, the Board should deny Petitioner's request to institute *inter partes* review.

II. BACKGROUND

A. Brief Technology Background

The '545 Patent relates to the field of wireless communications. More particularly, it addresses providing uplink synchronization in a wireless communication system. *See* '545 Patent at 1:23-25.

As the background section of the '545 patent explains, "synchronization between a user equipment (UE) and an evolved node B (eNB) is an important issue in a wireless communication system since transmission/reception of information between the UE and the eNB may not be performed without synchronization." *Id.* at 1:29-33. That is because of propagation delays that may occur during transmission of a signal from a transmitter to a receiver. *See id.* at 5:15-24. The length of these

delays can vary depending on, for example, the distance between the transmitter and receiver. *See id.*; *see also id.* at 5:54-64. Thus, without knowing the length of the delay, the receiver may be unaware of the time at which it is to receive signals, which may cause the receiver to fail to receive signals or to receive poor-quality signals. *See id.* at 5:24-36.

Additionally, a wireless system involving multiple UEs may require separate synchronizations for the downlink (communications from the eNB to the UE) and the uplink (communications from the UE to the eNB). The '545 Patent explains that although downlink synchronization could be “obtained in the UE based on a signal of the eNB” ('545 patent at 5:42-53), achieving uplink synchronization across multiple UEs involves additional “difficulty” and “complexity.” *Id.* at 5:54-6:3. One way to obtain UL synchronization is through a “a timing alignment value [that] may be calculated for each UE.” *Id.* at 6:12-19.

At the time of the '545 Patent, users of wireless networks were demanding increased capacity for data transmission. *See* '545 patent at 1:34-39. Satisfying this demand required transmitting data through a “plurality of component carriers (CCs)” (*see id.* at 4:52-64), in contrast to conventional systems that supported only a single CC (*see id.* at 1:34-37). But at the time of the '545 Patent, “a detailed scheme for synchronization with respect to the plurality of CCs has not been provided yet.” *Id.*

at 38-39.

B. Overview of The '545 Patent Invention

The '545 patent addresses the need for uplink (UL) synchronization in a wireless system utilizing multiple CCs. It does so through the use of UL timing groups, “delegate” CCs, and timing advance (TA) values. As an example, claim 3 illustrates an embodiment of the solution of the '545 Patent. The solution involves the UE receiving signaling including a “UL timing group information set,” using the UL timing group information set to configure “one or more UL timing groups,” receiving a TA value for a respective UL timing group, and applying the TA value to CCs in the respective timing group. *See* '545 Patent at 28:7-32 (claim 3). To obtain the TA value for the UL timing group, the UE transmits a random access preamble “through one or more delegate CCs” that have been “set as a delegate CC in the respective UL timing group.” '545 Patent at 28:19-22 (claim 3). Based on that transmission through the delegate CC(s), the UE then receives a random access response containing a TA value “for UL CCs in the respective UL timing group.” *Id.* at 28:23-25 (claim 3).

C. Relevant '545 Patent Prosecution History

During the prosecution of the application that led to the '545 Patent, the claims at issue were examined at length for their novelty, including in view of Qualcomm (the primary reference relied upon by Petitioner for Grounds 2, 4, 6, and 8).

Specifically, on July 22, 2016, the Applicant filed an Information Disclosure Statement (“IDS”) that disclosed Qualcomm, among a list of other references. *See* ’545 Patent File History (Ex. 1002) at 345-47. In the subsequent first office action, dated December 30, 2016, the Examiner stated that the July 22, 2016 IDS, along with an earlier IDS filed by the Applicant, “are being considered by the examiner.” *Id.* at 417. Furthermore, the Examiner noted that he considered “all references” on these disclosures, “except where lined through.” *Id.* at 427-30. No line appears through Qualcomm. *Id.* at 428.

This first office action did not reject the application based on Qualcomm. Instead, despite considering Qualcomm, the Examiner rejected the challenged claims as obvious over U.S. Patent. Pub. No. 2009/0279495 to Yoo (“Yoo”) (Ex. 2017) in view of U.S. Patent Pub. No. 2012/0008600 to Marinier et al. (“Marinier”) (Ex. 2018) and further in view of U.S. Patent Pub. No. 2008/0268850 to Narasimha et al. (“Narasimha”) (Ex. 2019). *See* ’545 Patent File History (Ex. 1002) at 415-24.

As explained below, these references are substantially similar to the Tenny-based grounds presented in this petition. And even in combination, these references did not come particularly close to the subject matter of the ’545 Patent. Regarding claims 2 and 3, the Examiner used Yoo as a primary reference, which is directed to uplink transmission by a UE in a wireless communication system. *See* Yoo at [0003],

[0012]. Aspects of Yoo’s disclosure address “performing a random access for restarting the time alignment timer,” (*id.* at [0013]), which is “used to control how long the UE is considered uplink time aligned,” *id.* at [0012]. Yoo discloses that the random access procedure comprises the UE transmitting a random access preamble to the base station, and receiving a random access response including a timing advance to be applied by the UE. *See id.* at [0018]; *see also id.* at Fig. 7. The Examiner found that while Yoo disclosed several claim limitations, it did not disclose claim elements [2.b] or [3.b]. *See* ’545 Patent File History at 420-23.

The Examiner then combined Yoo with Marinier. Marinier addresses “[m]aintaining time alignment” in a wireless communication system, such as an LTE or LTE-A system, “with multiple carriers.” Marinier at Abstract, [027]. Marinier discloses embodiments in which the UE (“WTRU” in Marinier) operates with one or more uplink carriers on the network, and determines groups of uplink carriers (“UL CC sets”), which may operate with the same timing advance (“TA”). *See id.* at [0006]-[0007]. “Some embodiments may identify UL carriers that use the same timing advance by defining a group index” *See id.* at [0073]. In such embodiments, the UE “may obtain the group index of the UL CC set to which an UL carrier belongs” in an “RRC message.” *See id.* Marinier also discloses embodiments in which a UE “may apply different TA values for different UL CC sets,” and may

receive a TA value using a Random Access procedure in which the TA value is provided to the UE using the Random Access Response message. *See id.* at [0075]. Despite those disclosures, the Examiner found that the Yoo-Marinier combination still did not disclose the portions of elements [2.d]-[2.e] and [3.c]-[3.d] reciting, “wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the UL timing group; and [applying / wherein the controller applies] each TA value to CCs in the respective UL timing group.” ’545 Patent File History at 422-24.

The Examiner then further combined Yoo and Marinier with Narasimha, which is “directed to handover of a mobile station from a source base station to a target base station.” Narsimha at [0003]. Narsimha discloses that the source base station may receive timing advance information from the target base station and forward the information to the mobile station. *See id.* at [0009]. The target base station may send the timing advance message in response to receiving a “random access channel preamble from the mobile station.” *Id.* at [0027]. Only after considering the three references in combination did the Examiner reject the claims. *See* ’545 Patent File History at 422-24.

The applicant responded to this non-final rejection on March 27, 2017. *See* ’545 Patent File History at 469. Without making any amendments, the applicant

pointed out that Marinier did not teach a “UL timing group information set” or “one or more UL timing groups, the one or more UL timing groups each comprising one or more UL CCs.” *See id.* at 474 (addressing claim 1); *see also id.* at 476 (applying same remarks to claims 2 and 3). The applicant also asserted that Narasimha did not disclose the claim element “wherein each TA value is calculated by the eNB for the respective UL timing group based on the received RAP associated with a delegate CC of the respective UL timing group.” *See id.* at 475-76 (applying argument to claims 2 and 3).

In view of this examination, the Examiner issued a Notice of Allowance on May 11, 2017, *see id.* at 523, stating that each challenged claim “is allowable because the Prior Art of record, singly or in combination fails to teach the feature of claim(s) limitations in the context of claim as a whole,” and noted the contents of those allowable claims. *Id.* at 529.

1. Prosecution of Related '954 and '503 Patents

Prosecution for related U.S. Patent No. 11,012,954 (the “'954 patent”) is also relevant. The '954 Patent issued as a continuation of the '545 Patent and was also allowed over Qualcomm and a combination involving Yoo and Marinier.

The application that subsequently issued as the '954 Patent (continuation application 16/733,106) was filed on January 2, 2020. *See Ex. 2020 ('954 Patent).*

During prosecution of this application, which was considered by the same Examiner as the '545 Patent, the applicant submitted an IDS on April 27, 2020 that identified, *inter alia*, Qualcomm. *See* Ex. 2021 ('954 Patent file history) at 105. In the first office action, dated September 2, 2020, the Examiner noted that this IDS “is being considered by the examiner,” *Id.* at 107, and specifically confirmed that he considered “all references”, “except where lined through.” *Id.* at 186-91. No line appears through Qualcomm. *Id.* at 188.

As with the '545 patent, the Examiner did not reject the claims based on Qualcomm, despite considering this reference. Instead, in a September 2, 2020 Office Action, the Examiner rejected the claims of the '954 application on the basis of nonstatutory double patenting over claims of the '545 patent's parent, U.S. Patent No. 9,054,835. *See id.* at 175-76. The Examiner also rejected the claims as obvious over a three-reference combination involving Yoo and Marinier, further in view the additional reference ZTE, “Impact analysis of multiple TA” (“Valencia”). *See id.* at 45. The applicant then filed a terminal disclaimer to U.S. Patent 9,054,835 and amended the pending claims to put them in a position for allowability. *See id.* at 231-32, 238, 250-52. The amendments included specifying that the claimed timing groups were “UL” timing groups, and adding a “wherein” clause similar to the one

recited in the challenged claims of the '545 patent. *See id.* at 250-52. The '954 patent issued on May 18, 2021. *See Ex. 2020.*

The applicant subsequently obtained yet another continuation (U.S. Patent No. 11,659,503) that issued over Yoo and Marinier, through an application filed on May 17, 2021. *See Ex. 2022 ('503 Patent).* On September 22, 2022, the Examiner rejected the pending claims on the ground of nonstatutory double patenting over the claims of the '954 patent. *See Ex. 2023 ('503 Patent file history)* at 105. The applicant filed a terminal disclaimer to the '954 patent on December 21, 2022. *See id.* at 157-58. The Examiner then withdrew the double patenting rejection, and issued a Notice of Allowance on January 17, 2023. *See id.* at 179-81, 183-84. In his statement of reasons for allowance, the Examiner specifically identified Marinier, Yoo, and Valencia as the “closest prior art,” and found that the applicant’s claims were allowable over those references “singly or in combination.” *See id.* at 184-85. The application issued as U.S. Patent No. 11,659,503 on May 23, 2023. *See Ex. 2022.*

The '954 and '503 patents issued with claims that closely resemble the challenged claims of the '545 patent. For example, the following chart compares claim 2 of the '545 patent, claim 1 of the '954 patent, and claim 1 of the '503 patent:

Similarity of Allowed Claims		
'545 Patent Claim 2	'954 Patent Claim 1	'503 Patent Claim 1
A method for establishing an uplink (UL) synchronization by a User Equipment (UE), the method comprising:	A communication method for a user equipment(UE) comprising:	A communication method for a user equipment (UE) comprising:
receiving a Radio Resource Control (RRC) signaling	receiving, at the UE, a Radio Resource Control (RRC) message through a primary Component Carrier (CC),	receiving, at the UE, a Radio Resource Control (RRC) message through a primary Component Carrier (CC),
including a UL timing group information set, which has been set by an evolved NodeB (eNB); configuring one or more UL timing groups based on the UL timing group information set, the one or more UL timing groups each comprising one or more UL CCs;	wherein the primary CC belongs to a first uplink (UL) timing group, the RRC message comprises information related to a second UL timing group, which has been set by an evolved Node B (eNB), the second UL timing group includes a secondary CC;	wherein the primary CC belongs to a first uplink (UL) timing group, the RRC message comprises information related to a second UL timing group, which has been set by an evolved Node B (eNB), the second UL timing group includes a secondary CC;
	receiving, at the UE, information indicating a random access preamble;	receiving, at the UE, information indicating a random access preamble;
transmitting a Random Access Preamble (RAP) through one or more UL CCs,	transmitting, at the UE, the random access preamble according to a non-contention selection, through one or more CCs,	transmitting, at the UE, the random access preamble according to a non-contention selection, through one or more CCs,
each of the one or more UL CCs transmitting an RAP being set as a delegate CC in the respective UL timing group;	each of the one or more CCs transmitting the random access preamble being set as a delegate CC for a respective second UL timing group;	each of the one or more CCs transmitting the random access preamble being set as a delegate CC for a respective second UL timing group;

receiving a Random Access Response (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group,	receiving, at the UE, a random access response through the primary CC, the random access response includes a Timing Advanced (TA) value for the secondary CC for the respective second UL timing group,	receiving, at the UE, a random access response through the primary CC, the random access response includes a Timing Advanced (TA) value that is calculated to adjust a UL transmission time for the second UL timing group in response to the transmitted the random access preamble, together with UL grant information for the UE,
wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group; and	wherein each TA value is transmitted from the eNB for the respective second UL timing group based on the transmitted random access preamble associated with the delegate CC of the respective second UL timing group; and	wherein each TA value is transmitted from the eNB for the respective second UL timing group based on the transmitted random access preamble associated with the delegate CC of the respective second UL timing group; and
applying each TA value to CCs in the respective UL timing group.	applying each TA value to the secondary CC for the respective second UL timing group.	applying each TA value to the secondary CC for the respective second UL timing group.

Accordingly, in addition to allowing the '545 claims over Qualcomm and the Yoo-Marinier-Narasimha combination that is substantially the same as Petitioner's Tenny-based grounds (as will be explained), the Examiner also allowed the similar '954 patent claims and '503 patent claims over Qualcomm and combinations involving Yoo and Marinier.

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

Petitioner contends that claims 2-3 would have been anticipated under pre-AIA 35 U.S.C. § 102, and would have been obvious under pre-AIA 35 U.S.C. § 103. The Petition raises these grounds of alleged unpatentability based on the following references:

1. US2011/0158116 (“Tenny”);
2. R2-100423, Supporting multiple timing advance groups (“Qualcomm”);
3. 3GPP Technical Specification 36.300 v8.11.0 (“TS36.300”);
4. 3GPP Technical Specification 36.331 v9.0.0 (“TS36.331”);
5. US2010/0260136 (“Fan”).

The specific grounds of alleged invalidity and are summarized as follows:

Ground	Basis	Claims	References
1	§§102/103	2-3	Tenny
2	§103	2-3	Qualcomm in view of TS36.331
3	§103	2-3	Tenny in view of TS36.300
4	§103	2-3	Qualcomm in view of TS36.331 and TS 36.300
5	§103	3	Tenny in view of Fan
6	§103	3	Qualcomm in view of TS36.331 and in further view of Fan
7	§103	3	Tenny in view of TS36.300 and in further view of Fan

8	§103	3	Qualcomm in view of TS36.331 and TS 36.300 and in further view of Fan
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E. Petitioner’s Relied-Upon References

The five references relied upon by Petitioner to challenge the patentability of claims 2-3 of the ’545 Patent are summarized as follows:

1. Overview of Tenny (Ex. 1005)

U.S. Patent Publication No. 2011/0158116 (“Tenny”) is entitled “Method and Apparatus That Facilitates a Timing Alignment in a Multicarrier System” and was published on June 30, 2011. Tenny purports to incorporate by reference provisional application 61/218769 (“Tenny-Prov,” Ex. 1006), filed on June 19, 2009.

Tenny is generally directed to “facilitating a timing alignment in a multicarrier system.” Tenny at Abstract. For example, an “aspect” of Tenny involves using a downlink timing to “ascertain” an “uplink timing associated with an uplink group of carriers.” *Id.* After the uplink timing is ascertained, “[e]ach of the uplink group of carriers is then transmitted within a threshold value of the uplink timing.” *Id.* In another embodiment, a “timing offset” for uplink communication is assigned to an uplink group of carriers and provided to a wireless terminal via one or more downlink carriers. *See id.*

However, as explained below, while Tenny may refer generally to “random

access,” it does not disclose that the UE transmits a random access preamble or receives a random access response including a TA value, among other distinctions from the claims of the ’545 Patent.

2. Overview of Qualcomm (Ex. 1007)

3GPP T-doc R2-100423 (“Qualcomm”) is titled “Supporting multiple timing advance groups,” and states on its face that it relates to a meeting held in Valencia, Spain from January 18-22, 2010.

Qualcomm purports to “describe a design for multiple timing advances.” Qualcomm at 1. Qualcomm’s Figure 1 illustrates a “scenario” with “different component carriers,” *id.* at 1, which “can be divided into groups to reduce the number of separate timings to be maintained by the UE,” *id.* at 2. When addressing uplink timing, Qualcomm states that “[t]he UE calculates uplink timing by adding a timing advance to the received downlink reference timing.” *Id.* Qualcomm proposes “options” in which all timing groups use the same downlink reference timing, and in which each timing group uses a unique downlink reference timing. *See id.*

As explained below, while Qualcomm states that the UE may send a “RACH” in connection with obtaining a timing advance, it does not disclose the steps involved in such a “RACH,” such as that the UE receives the timing advance in a random access response. On the contrary, it teaches that “[t]he timing advance is delivered

to the UE using a DL MAC control element.” Qualcomm, 2 (§ 2.4).

3. Overview of TS 36.300 (Ex. 1008)

TS36.300, v8.11.0 (“TS36.300”) it is a technical specification that “provides an overview and overall description of the E-UTRAN [Evolved Universal Terrestrial Radio Access Network] radio interface protocol architecture.” TS36.300 at 11. TS36.300 was provided by 3GPP as part of Release 8, and Petitioner asserts that it was published by January 5, 2010.

Petitioner relies on TS36.300 as a reference and asserts that it “provides explicit teachings of the use of RAP and RAR as claimed.” Petition at 67. However, as explained below, TS36.300 does not cure the deficiencies of Petitioner’s primary references Tenny and Qualcomm.

4. Overview of TS 36.331 (Ex. 1009)

TS36.331, v9.0.0 (“TS36.331”) is a technical specification that addresses “the Radio Resource Control protocol for the UE-E-UTRAN radio interface.” TS36.331 at 12. TS36.331 was provided by 3GPP as part of Release 9, and Petitioner asserts that it was published by September 9, 2009.

Petitioner relies on TS36.300 as a secondary reference and asserts that it “discloses the specific protocol that is used to reconfigure resources for handover in an LTE system.” Petition at 49. However, as explained below, TS36.331 does not cure the deficiencies of Petitioner’s primary references Tenny and Qualcomm.

5. Overview of *Fan* (Ex. 1010)

U.S. Patent Publication No. 2010/0260136 (“*Fan*”) is entitled “Random Access Channel Response Handling With Aggregated Carriers” and was published on October 14, 2010.

Fan is generally directed to “methods, computer program instructions and apparatus for performing random access procedures in a wireless communication system.” *Fan* at Abstract. *Fan*’s Figure 2A illustrates a block diagram of such a system, which includes a “wireless network” and a “population of UEs.” *Id.* Fig. 2A.

Petitioner relies on *Fan* as a secondary reference solely “[t]o the extent further disclosure is required for the claimed ‘transceiver’ and ‘controller’” recited in claim 3. Petition at 71. However, as explained below, *Fan* does not cure the deficiencies of Petitioner’s primary references Tenny and Qualcomm.

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 defers to (and Patent Owner agrees) that the claims should be construed according to their plain and ordinary meaning.

Petitioner also notes that that the parties exchanged proposed constructions for certain claim terms in the District Court Action. The district court construed those terms according to their plain and ordinary meaning, as follows:

Term	Construction
“eNB” / “evolved NodeB (eNB)” (Claims 2, 3)	Plain and ordinary meaning
“wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group” (Claims 2, 3)	Plain and ordinary meaning

See Ex. 2024 (EDTX Claim Construction Order) at 7-11.

IV. LEGAL STANDARDS FOR INVALIDITY

A. Anticipation under 35 U.S.C. § 102

Anticipation under 35 U.S.C. § 102 (pre-AIA)¹ 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).

¹ The pre-American Invents Act (“AIA”) statute controls here because the ’545 Patent is entitled to an effective filing date prior to the AIA’s implementation.

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 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)).

It is the 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-Systems, 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”).

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.² *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 nearly all of 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 eight asserted grounds of invalidity in this Petition. This is well beyond the normal limits of an IPR petition

² Here, the co-pending District Court Action is *Pantech Corp. v. LG Electronics Inc.*, No. 5:22-cv-00113-RWS (E.D. Tex.).

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 14), 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.³ 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, in the District Court Action, 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.,

³ Jury trial is scheduled for September 23, 2024. *See Pantech Corp. v. LG Electronics Inc.*, No. 5:22-cv-00113-RWS, Dkt. 236 at 2 (E.D. Tex., Jan. 22, 2024) (scheduling order attached as Exhibit 2025).

July 19, 2023). The Court has thus 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 16, citing Ex. 1021), 24 months after the filing date is September 2, 2024. That is before the currently-scheduled trial date. Petitioner’s alternative citation to privately gathered statistics from *Docket Navigator* (indicating a median time to trial of 26 months) 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 will 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. As

addressed below in the context of the fourth *Fintiv* factor, the grounds of invalidity that Petitioner presents here are, with the exception of a single secondary reference (Fan), also disputed by the parties in the District Court Action. 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 the Substantially the Same Grounds as Presented in this Petition

The fourth *Fintiv* factor (“overlap between issues raised in the petition and in the parallel proceeding”) also favors denial of institution. Aside from Petitioner’s inclusion of a single secondary reference (Fan) in Grounds 5-8 (relied upon solely with respect to claim 3’s recitation of a “transceiver” and a “controller,” *see* Petition at 71),⁴ each of the arguments that the Petition makes (including Grounds 1-4 in their

⁴ The Petition devotes less than two-and-half pages collectively to Grounds 5-8 (*see* Petition at 71-73), and relies on Fan solely “[t]o the extent further disclosure is required for the claimed ‘transceiver’ and ‘controller’” (*id.* at 71) as recited in claim 3.

entirety) are already being litigated in the District Court Action. *See* Ex. 2026 (LGE's Invalidity Contentions) at 45-55. Furthermore, Petitioner asserts references similar to Fan in the District Court Action for the same purpose as Fan is relied upon for. Grounds 5-8 thus substantially overlap with those being litigated in the District Court Action, and Grounds 1-4 are the same.

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, near-identical grounds, near-identical arguments, near-identical references, 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 15. 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 15), 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, eight-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, four, call into question how “compelling” its arguments are.

Furthermore, the sheer number of grounds asserted, eight, increases substantially the duplicative litigation sought by Petitioner. Asking both the USPTO and the district court to independently consider these eight asserted grounds of invalidity—all of which are the same or substantially the same as grounds asserted in the district court—without any *Sotera* stipulation, surpasses any reasonable threshold of “counterproductive litigation costs” limited by the Director’s guidance on discretionary denial (not to mention gamesmanship).

In addition, the 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 the Board and Patent Owner 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. Terralidium 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 is based upon five references across eight grounds. Petitioner's Grounds 5-8 also suffer from a lack of particularity because they merely apply Fan to Grounds 1-4 without providing a clear explanation or motivation to combine the multiple references.

Finally, in unrelated but similar ongoing district court litigation,⁵ the related '954 Patent is being asserted by Pantech and has been challenged by the defendant in that matter on the basis of invalidity in view of Qualcomm—the same primary reference as used by Petitioner in grounds 2, 4, 6, and 8. The trial in that matter is set even earlier than that for the District Court Action described above—March 25, 2024, before any institution decision here—and will involve substantially similar invalidity arguments about the alleged teachings of Qualcomm. Thus, this Petition seeks institution on the ground of a reference that, by the time of any decision by the Board, will have been initially considered by the examiner and considered again by a judge and jury. Institution would be wasteful on this ground as well.

Accordingly, the sixth *Fintiv* factor introduces additional considerations that also weigh 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

⁵ *Pantech Corp. v. OnePlus Technology (Shenzhen) Co., Ltd.*, No. 5:22-cv-00069-RWS (E.D. Tex.).

an *inter partes* review in view of the advanced stage of the District Court Action 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 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). 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).

Specifically, the IPR-asserted art is “substantially the same” as the art the Examiner considered. One of LGE’s two primary references—Qualcomm—was presented to the Office during prosecution of the ’545 patent and the related ’954 patent. LGE’s other primary reference—Tenny—and secondary references are cumulative of those previously considered by the Office. That satisfies Part 1 of the two-part framework from *Advanced Bionics*.

Part 2 of the *Advanced Bionics* test is also met. Petitioner fails to demonstrate that the Office erred regarding Qualcomm, fails to meaningfully distinguish Tenny

from the references considers during prosecution, and fails to address the cumulative nature of the remaining references entirely. The Board should accordingly deny institution under § 325(d). *Albany Int’l Corp. v. Kimberly-Clark Worldwide, Inc.*, PGR2021-00019, Paper 22, 8-9 (P.T.A.B. June 22, 2021) (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.”).

1. The Same or Substantially the Same Art Was Previously Considered

Part 1 is met with respect to Qualcomm (*i.e.*, one of LGE’s two primary references) because it was cited in an IDS and listed on the face of the ’545 patent. *Advanced Bionics* makes clear that “[p]reviously 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.” *Advanced Bionics*, Paper 6, at 7-8. This alone is enough to satisfy Part 1 notwithstanding Petitioner’s argument that “the Examiner did not substantively discuss or rely on Qualcomm.” Petition at 13. *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).

But that is not the only evidence that Part 1 is satisfied with respect to Qualcomm. Namely, the applicant's disclosure and the Examiner's consideration of Qualcomm during the prosecution of the related '954 patent, which issued with similar claims (*see* Section II.C, *supra*), is further evidence that Part 1 is met with respect to Qualcomm. The Board has specifically considered the issue of prior art and arguments in a family of patents, and concluded that "previously presented" in 35 U.S.C. § 325(d) refers to art and arguments presented to the Office *prior to the filing of the petition at issue*, as is the case here. *See Ironsource*, PGR2021-00096, Paper 14, at 51. Indeed, the Federal Circuit "has many times applied the prosecution history of one patent in a family to a related patent in the same family," and therefore, the examiner's consideration of Qualcomm in the related applications is relevant here as well. *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1345 (Fed. Cir. 2004); *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 980 (Fed. Cir. 1999)). Accordingly, Part 1 is satisfied as to Qualcomm.

Part 1 is also satisfied with respect to Petitioner's other primary reference, Tenny. In particular, as discussed below, Tenny is cumulative to the Yoo-Marinier-Narasimha combination considered and relied on by the Examiner during prosecution. Again, the Examiner allowed the challenged claims over that combination after the applicant argued that those references did not disclose the claimed "UL timing group information set" or "one or more UL timing groups," or the limitation, "wherein each TA value is calculated by the eNB for the respective UL timing group based on the received RAP associated with a delegate CC of the respective UL timing group." See '545 Patent File History at 474-76. Tenny's disclosures add nothing to the art considered by the Examiner with respect to those limitations.

For example, Petitioner argues that Tenny teaches the claimed UL timing groups through its disclosure that a UE is assigned "to at least one so-called timing group, i.e., a group of carriers with uplink timings that are the same to within some tolerance," Tenny-Prov (Appx. A), Ex. 1006 at 1:17-19, and teaches the claimed UL timing group information set by disclosing that the network sends a "group identifier" in RRC signaling as "an index into the set of timing groups with which the UE was configured," *id.* at 5:3-10; *see* van der Weide Decl. (Ex. 1003) ¶¶ 81, 86 (mapping those disclosures to the "UL timing groups" and "UL timing group

information set”). Petitioner fails to identify any material difference between those disclosures from Tenny and Marinier’s similar disclosures that the UE determines groups of UL CCs that share the same timing, and obtains a “group index” of the UL CC set in an RRC message. *See* Marinier at [0005]-[0007], [0073]; *see also* ’545 Patent File History at 419-20 (relying on Marinier for this limitation in a subsequently-overcome rejection). Faced with that similarity, Petitioner merely states in conclusory fashion that Marinier’s UL CC sets “are different from” Tenny’s disclosures. Petition at 13-14. But neither Petitioner nor its expert identifies any substantive difference between the references, or even attempts to explain how Marinier’s “UL CC sets” that share a timing advance and “group index” are different from Tenny’s groups of carriers with shared uplink timings and a “group identifier” that serves as “an index into the set of timing groups.”

The similarities also extend to the “wherein” limitations that the applicant argued were not present in the prior art. Petitioner argues that Tenny discloses those limitations through its statements that the UE receives a TA value “in response to a random access procedure”—which Petitioner argues constitutes a Random Access Response (Petition at 35 (quoting Tenny-Prov ¶ 40))—and then “update[s] timing for the group of carriers” based on the received timing advance, Petition at 39 (citing Tenny-Prov. ¶ 37). But Petitioner’s contention is no different than Marinier’s

disclosure that the UE may receive a TA value using a Random Access Response, and apply that TA value to “some or each UL carrier of the UL CC set.” *See* Marinier at [0075]. And Yoo similarly discloses that the UE receives a timing advance in a random access response, and applies the received timing advance. *See* Yoo at [0018]; *see also id.* at Fig. 7. Tenny is thus cumulative to those disclosures from Yoo and Marinier, which the Examiner expressly found did not disclose the “wherein” limitations in the challenged claims. *See* ’545 Patent File History at 422 (claim 2) and 424 (claim 3).

Accordingly, for each element of the challenged claims that the Applicant argued or the Examiner found was not present in the prior art, Tenny merely rehashes the same disclosures found in the Yoo-Marinier-Narasimha combination considered at length by the Examiner. Part 1 of the *Advanced Bionics* framework is therefore satisfied as to Tenny.

Finally, each of Petitioner’s secondary references—TS36.300, TS36.331, and Fan—are also cumulative of the art considered by the Examiner. Petitioner relies on TS36.300 solely for its alleged “teachings of the use of RAP and RAR” with respect to the claim limitations “requir[ing] the transmission of a RAP and reception of a RAR.” Petition at 67. But Yoo discloses a random access procedure in which the UE transmits a RAP and then receives a RAR including a timing advance to be applied

by the UE. *See* Yoo at [0018]; *see also id.* at Fig. 7. And the Examiner expressly found that although Yoo disclosed the elements of the challenged claims reciting the transmission of a RAP and reception of a RAR, it did not preclude the patentability of the claims. *See* '545 Patent File History at 421 (claim 2), 423 (claim 3). TS36.300 is thus substantially the same as the art considered during prosecution.

The same is true of TS36.331 and Fan. Petitioner relies on TS36.331 solely for claim elements [2.b] and [3.b], which recite “configur[ing]/[e] one or more UL timing groups . . .” *See* Petition at 56–57, 64. Petitioner asserts that TS36.331 discloses those limitations by teaching a “specific protocol” used to reconfigure timing groups during a handover procedure. *See* Petition at 49. However, the Applicant did not argue, and the Examiner did not find, that the claimed “configuration” was missing from the Yoo-Marinier-Narasimha combination. Petitioner relies on Fan solely with respect to claim 3’s “transceiver” and “controller.” *See* Petition at 71. But again, the Applicant did not argue, and the Examiner did not find, that Yoo-Marinier-Narasimha lacked a transceiver or controller.

* * *

In sum, all five of the references asserted in the Petition were either disclosed to the Office during prosecution, or are cumulative of the references considered by

the Examiner. Part 1 of the *Advanced Bionics* framework is therefore satisfied.

2. Petitioner Failed to Demonstrate Material Error by the Office

Part 2 is met with respect to Qualcomm because the Office's prior consideration of Qualcomm satisfies Part 1 and Petitioner fails to identify any material error by the Office. Petitioner argues only that the Office "did not issue any rejections based on Qualcomm." Petition at 14. But it is uncontroverted that Qualcomm was included on an IDS for the '545 patent (as well as the related '954 patent), and that the Office confirmed that it considered Qualcomm during prosecution of both patents. '545 Patent File History at 427-30; Ex. 2021 ('954 Patent File History) at 188. Accordingly, Petitioner's lack of analysis of any material error in the Office's consideration of Qualcomm is sufficient to meet the second part of the *Advanced Bionics* test. See *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.>").

Part 2 is also met with respect to Tenny and Petitioner's secondary references (TS36.300, TS36.331, and Fan) because Petitioner fails to argue that the Office committed any material error in confirming the patentability of the challenged

claims over substantially similar art considered during prosecution.⁶ As with Qualcomm, this lack of analysis satisfies Part 2. *See Albany Int'l Corp.*, PGR2021-00019, Paper 22, 8-9.

Accordingly, because the first part of the *Advanced Bionics* framework is satisfied, and Petitioner failed to make a showing of material error for the second part, the Director should exercise discretion not to institute review. *See Advanced Bionics*, IPR2019- 01469, Paper 6, 8; *Albany Int'l Corp.*, PGR2021-00019, Paper

⁶ Although Petitioner does not identify this as an error, Petitioner's expert opines that the Examiner's discussion of Marinier's "UL CC sets" somehow means that the Examiner "apparently" did not consider other portions of Marinier, such as its "group index of the UL CC set." *See* van der Weide Decl. ¶ 45. However, the Examiner is "presumed to understand all a reference teaches." *Norian Corp. v. Stryker Corp.*, 252 F. Supp. 2d 94, 960-61 (N.D. Cal. 2002), *aff'd in part, rev'd in part on other grounds*, 363 F.3d 1321 (Fed. Cir. 2004). And here, the record shows that the Examiner considered more than the cited paragraphs of Marinier: the Examiner discussed Marinier's UL CC sets even though he specifically cited only paragraphs 21-29 of Marinier, which do not refer to the UL CC sets. *See* '545 Patent File History at 421-24.

22, 10-11.

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

Institution should be denied for the additional reason that Petitioner does not establish a reasonable likelihood of prevailing against either challenged claim.

**A. Ground 1: Petitioner Fails To Establish That Tenny Anticipates
And/Or Renders Obvious Claims 2-3**

Petitioner has not shown a likelihood of prevailing on Ground 1 because Tenny does not teach each and every element of claims 2-3.

**1. Tenny fails to disclose claim element [2.c] “transmitting a
Random Access Preamble (RAP) through one or more UL
CCs, each of the one or more UL CCs transmitting an RAP
being set as a delegate CC in the respective UL timing group”**

Petitioner fails to show that Tenny discloses that the UE transmits a RAP through one or more UL CCs set as a delegate CC in the respective UL timing group, as required by claim 2. Petitioner concedes that Tenny does not “explicitly” disclose a RAP (Petition at 69), and does not argue that it does so inherently. Tenny therefore cannot anticipate claim 2.

In particular, Tenny refers only to “random access.” It does not disclose a RAP, let alone the transmission of a RAP in the manner claimed. For example, Petitioner argues that Tenny discloses element [2.c] through its statement that the UE’s “[t]iming offset component 308 can acquire a timing offset from the candidate

carrier for a given group using a random access procedure and/or the like.” Tenny-Prov. (Ex. 1006) ¶ 37; see Petition at 31-32, 34. But that passing reference to a UE “using a random access procedure and/or the like” to acquire information does not disclose the transmission of a RAP (or of any information) by the UE. The same is true of Tenny’s general statements that the UE may “perform random access to update its timing” (Tenny-Prov (Appx. A), Ex. 1006 at 24:3-4, or “for timing synchronization.” *Id.* at 27:31-32. Those statements do not disclose that the UE transmits a RAP.

Significantly, even Petitioner’s own statements demonstrate that Tenny does not anticipate this claim element. The Petition concedes that Tenny does “not explicitly state” that its “UEs use a RAP and RAR to acquire timing information as part of their disclosed LTE random access procedure.” Petition at 69. But element [2.c] recites that the UE must use a RAP. Because Tenny does not expressly disclose that the UE performs this claim limitation, Tenny can only anticipate claim 2 if it inherently discloses transmitting a RAP in the manner claimed. *See, e.g., PIN/NIP, Inc. v. Platte Chem. Co.*, 304 F.3d 1235, 1243 (Fed. Cir. 2002) (“A determination that a patent is invalid as being anticipated under 35 U.S.C. § 102 requires a finding that ‘each and every limitation is found either expressly or inherently in a single prior art reference.’”) (quoting *Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150

F.3d 1354, 1360 (Fed. Cir. 1998)). But Petitioner does not argue that Tenny inherently discloses this element. Instead, its expert opines only that “a person of ordinary skill in the art would have at least found it obvious to implement Tenny to use a Random access Preamble (RAP) to request the timing offset” van der Weide Decl. (Ex. 1003) ¶ 91.

Petitioner also fails to show that Tenny alone renders this element obvious. In ostensibly addressing the knowledge of a POSITA in this Ground, Petitioner, through its expert, primarily relies on say-so (Ground 1) or the disclosures of TS36.300 (Ground 3). *See* van der Weide Decl. (Ex. 1003) ¶ 91. But Ground 3 specifically asserts the combination of Tenny with TS36.300 against this claim element. *See* Petition at 67. Petitioner’s argument that Tenny by itself provides a basis for an obviousness finding is therefore unsupported, and the substance of its obviousness argument is cumulative of Ground 3.

Accordingly, Petitioner has not shown, with any likelihood, that Tenny discloses or renders obvious claim element [2.c].

2. Tenny fails to disclose claim element [2.d] “receiving a Random Access Response (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group, wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group”

For similar reasons as Petitioner fails to show that Tenny discloses claim element [2.c], Petitioner also fails to show that Tenny discloses element [2.d]. Namely, Tenny does not disclose a RAR, just as it does not disclose a RAP.

For element [2.d], Petitioner again relies on Tenny’s passing references to “random access,” such as the statement in Paragraph 40 of Tenny’s provisional application that “a timing offset can be received from the candidate carrier during the timing update,” which “can be in response to a random access procedure, in one example.” *See* Petition at 35-56 (citing Tenny-Prov. ¶ 40). But again, this refers only to a random access procedure, not a random access preamble or a random access response. A statement that a UE can receive a timing offset “in response to a random access procedure” is not a disclosure of receiving a random access response that includes a timing advanced value for UL CCs in a UL timing group. Indeed, Petitioner’s expert opines that a random access response is part of the random access procedure, *see* van der Weide Decl. ¶ 97, and thus not something that would be received after, or “in response to,” the random access procedure. Unsurprisingly,

then, the Petition concedes that Tenny does not “explicitly state” that the UE “use[s] a RAP and RAR to acquire timing information.” Petition at 69.

Accordingly, Tenny does not anticipate claim 2. It does not expressly disclose claim element [2.d] explicitly, and Petitioner does not argue that it does so inherently. *See PIN/NIP*, 304 F.3d at 1243.

Petitioner also fails to show that Tenny alone renders this element obvious. As with claim element [2.c], Petitioner’s obvious argument relies primarily on unsupported expert say-so (Ground 1) or the disclosures of TS36.300 (Ground 3). *See van der Weide Decl.* (Ex. 1003) ¶¶ 91, 97. But the Petition addresses the combination of Tenny with TS36.300 with respect to claim element [2.d] in Ground 3. *See* Petition at 67. Accordingly, Petitioner’s assertion that Tenny alone establishes that claim element [2.d] is unsupported, and its arguments are cumulative of Ground 3.

3. Tenny fails to disclose claim element [3.c] “wherein the transceiver transmits a Random Access Preamble (RAP) through one or more UL CCs . . . ,” and “receives a Random Access Response (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group . . . ”

Petitioner fails to show that Tenny discloses claim element [3.c] for the same reasons it fails to show Tenny discloses elements [2.c] and [2.d].

Claim 3 is an apparatus claim corresponding to method claim 2. Element [3.c]

corresponds to elements [2.c] and [2.d]: it recites the UE's transmission of the RAP and reception of the RAR and, other than specifying that a transceiver performs those actions, uses substantively identical language to claim 2. Indeed, the Petition's claim chart for element [3.c] simply refers back to elements [2.c] and [2.d]. *See* Petition at 45-46. The Petition is therefore deficient with respect to element [3.c] for the same reasons as it is with respect to elements [2.c] and [2.d].

* * *

For the foregoing reasons, Tenny does not disclose or render obvious each and every element of the challenged claims. Accordingly, Ground 1 does not have a reasonable likelihood of success.

B. Ground 2: Petitioner Fails to Establish that Qualcomm in view of TS 36.331 Renders the Challenged Claims Obvious

Petitioner has not shown a reasonable likelihood of prevailing on Ground 2 because Qualcomm in view of TS 36.331 does not render either claim 2 or claim 3 obvious.

- 1. Qualcomm in view of TS 36.331 fails to render obvious claim element [2.d] “receiving a Random Access Responses (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group, wherein each TA value is transmitted from the eNB for the respective UL timing group based on the transmitted RAP associated with a delegate CC of the respective UL timing group”**

Petitioner fails to show that Qualcomm in view of TS 36.331 discloses or

renders obvious that the UE receives a RAR including a TA value for UL CCs in the respective UL timing group. The Petition relies on Qualcomm for this claim element. It points to Qualcomm's statement that, "to obtain a timing advance, the UE has to send a RACH" (Qualcomm at 2 (§ 2.4)), and its disclosure that the UE may "initiate[] RACH" with a "RACH preamble." *Id.* Even assuming, for purposes of this preliminary response only, that the "RACH preamble" refers to a RAP, those disclosures do not render element [2.d] obvious. To start, Qualcomm does not specifically refer to or otherwise discuss a RAR. And Qualcomm's statements that the UE "sends" or "initiates" a RACH do not disclose any action taken by the eNB after receiving the RACH, nor any information received by the UE in response to the RACH.

The Petition asks the Board to conclude that a POSITA would find it obvious that a UE-initiated RACH would result in the UE receiving a RAR including a TA value. But in doing so, it ignores entirely the disclosure Qualcomm does make about the delivery of the timing advance: that "[t]he timing advance is delivered to the UE using a DL MAC control element." Qualcomm, 2 (§ 2.4). The Petition contains no analysis of that disclosure, no discussion of the "DL MAC control element" that delivers the timing advance, or any explanation of whether a POSITA would understand or find obvious that a RAR would utilize a DL MAC Control Element.

Thus, while the Petition contends that Qualcomm’s “timing advance” maps to the claim’s “TA value” (see Petition at 59-60), it makes no showing that a POSITA would understand that using a DL MAC control element to deliver the timing advance to the UE amounts to, or renders obvious, the reception by the UE of a RAR containing a timing advance.

Accordingly, Petitioner has not shown a reasonable likelihood that Qualcomm in view of TS 36.331 renders claim 2 obvious.

2. Qualcomm in view of TS 36.331 fails to render obvious claim element [3.c] “wherein the transceiver transmits a Random Access Preamble (RAP) through one or more UL CCs . . . ,” and “receives a Random Access Response (RAR) including a Timing Advanced (TA) value for UL CCs in the respective UL timing group”

Petitioner fails to show that Qualcomm in view of TS 36.331 renders obvious claim element [3.c] for the same reasons it fails to show that combination renders obvious element [2.d].

Claim 3 is an apparatus claim corresponding to method claim 2. Element [3.c] corresponds to elements [2.c] and [2.d]: it recites the UE’s transmission of the RAP and reception of the RAR and, other than specifying that a transceiver performs those actions, uses substantively identical language to claim 2. Indeed, the Petition’s claim chart for element [3.c] simply refers back to elements [2.c] and [2.d]. See Petition at 45-46. Thus, because Ground 2 is deficient with respect to element [2.d], it is

likewise deficient with respect to element [3.c].

C. Grounds 3–4: Petitioner Does Not Show That Combinations With TS36.300 Cure the Deficiencies in Grounds 1-2

Grounds 3 and 4 add TS36.300 in combination with the references asserted in Grounds 1 and 2, respectively. Petitioner fails to show that these combinations would cure the deficiencies present in Grounds 1 and 2.

For example, as explained for Ground 2, Qualcomm discloses that “[t]he timing advance is delivered to the UE using a DL MAC control element,” Qualcomm, 2 (§ 2.4), and Petitioner makes no showing that a POSITA would understand that statement to disclose or render obvious that the timing advance is delivered in a RAR, as claimed. Accordingly, combining Qualcomm with TS36.300’s alleged “explicit teachings of the use of RAP and RAR,” Petition at 67, does not cure Qualcomm’s shortcomings. Even to the extent that TS36.300 discloses relevant details of the RAR, such details do not rectify Petitioner’s threshold failure to establish any connection between a RAR and the “DL MAC control element” used to deliver the timing advance in Qualcomm.

Petitioner’s rationale to combine TS36.300 with Tenny, as it purports to do in Ground 3, similarly suffers from a failure to adequately explain why a POSITA would find it obvious to combine the references in a manner that cures Tenny’s deficiencies.

D. Grounds 5-8: Petitioner Does Not Show That Combinations With Fan Cure the Deficiencies in Grounds 1-4

In Grounds 5-8, Petitioner combines Fan with the references asserted in Grounds 1-4. Petitioner specifically relies on Fan “[t]o the extent further disclosure is required for the claimed ‘transceiver’ and ‘controller’” recited in claim 3. Petition at 71. But as previously explained, Grounds 1–4 fail for reasons unrelated to the presence of a “transceiver” or “controller.” Petitioner therefore does not even argue that Fan could cure the shortcomings of Grounds 1-4. Accordingly, for the same reasons as described for Grounds 1-4, Petitioner has not shown that Grounds 5-8 have a reasonable likelihood of success.

VII. CONCLUSION

For at least the foregoing reasons, the Board should deny institution.

Case IPR2023-01269
Patent No. 9,854,545
Patent Owner Preliminary Response

Dated: January 29, 2024

Respectfully submitted,

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Case IPR2023-01269
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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 IPR2023-01269
Patent No. 9,854,545
Patent Owner Preliminary Response

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 11,370 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

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