

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ericsson Inc., Nokia of America Corp., AT&T Services, Inc., Cellco Partnership  
d/b/a Verizon Wireless, Google LLC and T-Mobile, USA, Inc.,  
Petitioners

v.

KT Corporation (Patent Owner) and Pegasus Wireless Innovation LLC  
(Exclusive Licensee)  
Patent Owner

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Case: IPR2025-00084

U.S. Patent No. 11,219,000

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**PETITIONERS' REPLY TO PATENT OWNER'S PRELIMINARY  
RESPONSE TO PETITION**

**LIST OF EXHIBITS**

| <b>Exhibit</b>  | <b>Short Name</b>                 | <b>Description</b>                                                       |
|-----------------|-----------------------------------|--------------------------------------------------------------------------|
| <b>Ex. 1001</b> | '000 Patent                       | U.S. Patent No. 11,219,000                                               |
| <b>Ex. 1002</b> | Declaration                       | Declaration of Dr. Sumit Roy                                             |
| <b>Ex. 1003</b> | CV                                | <i>Curriculum Vitae</i> of Dr. Sumit Roy                                 |
| <b>Ex. 1004</b> | '000 File History                 | File History of U.S. Patent No. 11,219,000                               |
| <b>Ex. 1005</b> |                                   | Reserved                                                                 |
| <b>Ex. 1006</b> | Takeda                            | International Publication No. WO 2019/030929 A1                          |
| <b>Ex. 1007</b> | Certified Translation of Takeda   | Certified Translation of International Publication No. WO 2019/030929 A1 |
| <b>Ex. 1008</b> | Yan- PCT                          | International Publication No. WO 2017/024554 A1                          |
| <b>Ex. 1009</b> | Certified Translation of Yan- PCT | Certified Translation of International Publication No. WO 2017/024554 A1 |
| <b>Ex. 1010</b> | Yan- U.S. Patent                  | U.S. Patent No. 10,736,085 B2                                            |
| <b>Ex. 1011</b> | Marinier                          | U.S. Patent Application Publication No. US 2014/0056278 A1               |
| <b>Ex. 1012</b> | R1-1711853                        | Activation/deactivation of bandwidth part                                |
| <b>Ex. 1013</b> |                                   | Reserved                                                                 |
| <b>Ex. 1014</b> | Hooli                             | U.S. Patent Application Publication No. US 2018/0324786 A1               |
| <b>Ex. 1015</b> | Yiu                               | U.S. Patent Application Publication No. US 2019/0044689 A1               |
| <b>Ex. 1016</b> | Ahn                               | U.S. Patent Application Publication No. US 2019/0268123 A1               |
| <b>Ex. 1017</b> | Bishop Declaration                | Declaration of Craig Bishop                                              |

| <b>Exhibit</b>  | <b>Short Name</b>                  | <b>Description</b>                                                                                                                          |
|-----------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ex. 1018</b> | 21.905 V12.0.0                     | 3GPP Technical Specification 21.905 V12.0.0 (2013-06)                                                                                       |
| <b>Ex. 1019</b> | 21.905 V14.1.1                     | 3GPP Technical Specification 21.905 V.14.1.1 (2017-06)                                                                                      |
| <b>Ex. 1020</b> | Yang                               | U.S. Patent Application Publication No. US 2019/239214 A1                                                                                   |
| <b>Ex. 1021</b> | Takeda '856                        | U.S. Patent No. 11,265,856                                                                                                                  |
| <b>Ex. 1022</b> | Takeda '073                        | U.S. Patent No. 11,160,073                                                                                                                  |
| <b>Ex. 1023</b> | Zhang                              | International Publication NO. WO 2018/227538 A1                                                                                             |
| <b>Ex. 1024</b> | Li                                 | U.S. Patent Application Publication NO. US 2016/0338041 A1                                                                                  |
| <b>Ex. 1025</b> | Ahn '664                           | U.S. Patent No. 10,305,664                                                                                                                  |
| <b>Ex. 1026</b> | Shaheen                            | U.S. Patent No. 10,805,941                                                                                                                  |
| <b>Ex. 1027</b> | '000 Claim Chart                   | U.S. Patent No. 11,219,000 Claim Chart                                                                                                      |
| <b>Ex. 1028</b> | Order modifying deadlines          | Order modifying case deadlines for D. Ct. Case Nos. 2:23-cv-00640-JRG, 2:23-cv-00638-JRG, and 2:23-cv-00639-JRG                             |
| <b>Ex. 1029</b> | First amended docket control order | First Amended Docket Control Order for D. Ct. Case Nos. 2:23-cv-00640-JRG, 2:23-cv-00638-JRG, and 2:23-cv-00639-JRG                         |
| <b>Ex. 1030</b> | Consolidation order                | Order consolidating D. Ct. Case Nos. 2:23-cv-00640-JRG, 2:23-cv-00638-JRG, and 2:23-cv-00639-JRG for pretrial issues                        |
| <b>Ex. 1031</b> | Andrews                            | Jeffrey G. Andrews, <i>et al.</i> , "What Will 5G Be?" <i>IEEE Journal on Selected Areas in Communications</i> , Vol. 32, No. 6 (June 2014) |
| <b>Ex. 1032</b> | Oh                                 | U.S. Patent No. 10,980,007                                                                                                                  |
| <b>Ex. 1033</b> | Wilson                             | U.S. Patent No. 10,588,143                                                                                                                  |

| Exhibit  | Short Name                          | Description                                                                                                                                                                                                                                                                                                   |
|----------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ex. 1034 | Ratasuk                             | Repeepat Ratasuk, <i>et al.</i> , “Carrier Aggregation and Dual Connectivity,” Mobile Radio Research Lab, Nokia Bell Labs (2017)                                                                                                                                                                              |
| Ex. 1035 | Silva                               | Icaro Da Silva, <i>et al.</i> , “Tight integration of new 5G air interface and LTE to fulfill 5G requirements” <i>IEEE</i> (2015)                                                                                                                                                                             |
| Ex. 1036 | Marsch                              | Patrick Marsch, <i>et al.</i> , “5G Radio Access Network Architecture: Design Guidelines and Key Considerations” <i>IEEE Communications Magazine</i> (November 2016)                                                                                                                                          |
| Ex. 1037 | ATIS                                | ATIS.3GPP.37.863-01-01.V1540                                                                                                                                                                                                                                                                                  |
| Ex. 1038 | Protective order                    | <i>Pegasus Wireless Innovation LLC v. Verizon Communications Inc. et al</i> , Nos. 2:23-cv-00640, 2:23-cv-00638, 2:23-cv-00639 (E.D. Tex.) Protective Order from Non-Jurisdictional Discovery                                                                                                                 |
| Ex. 1039 | Fourth amended docket control order | Fourth Amended Docket Control Order for D. Ct. Case Nos. 2:23-cv-00640-JRG, 2:23-cv-00638-JRG, and 2:23-cv-00639-JRG                                                                                                                                                                                          |
| Ex. 1040 | Opposition to Order Focusing Claims | <i>Pegasus Wireless Innovation LLC v. Verizon Communications Inc. et al</i> , Nos. 2:23-cv-00640, 2:23-cv-00638, 2:23-cv-00639 (E.D. Tex.) Pegasus Wireless Innovation LLC’s Surreply in Opposition to Defendants and Intervenor’s Motion for Entry of an Order Focusing Asserted Patent Claims and Prior Art |

PO's *Fintiv* arguments fail, and the Board should institute this IPR.

**I. Factor 1 is Neutral (Likelihood of Stay)**

No party has requested a stay, and the District Court has not indicated whether a stay is likely to be granted. **Therefore, this factor is neutral.**

**II. Factor 2 and Factor 5 Strongly Favor Institution (Timing of Trial and Overlap of Parties)**

Because Petitioners comprise multiple entities with different trial dates, these factors are interrelated, and strongly favor institution. *See HP Inc., et al. v. Neodron Ltd.*, IPR2020-00459, Paper 17 at 36, 38 (P.T.A.B. Sept. 14, 2020).

Petitioner Google, Inc. is not a party to any trial. Therefore, there is *not* complete overlap of the parties, and at least one Petitioner will *never* have a trial date in the parallel litigation. *IQE PLC v. Cornell Rsch. Found. Inc.*, IPR2024-00609, Paper 9 at 12-13 (P.T.A.B. Sept. 13, 2024). PO completely ignores this fact.

As for the other Petitioners, only one of three trials in the parallel district court case is scheduled. PO points to median-time-to-trial statistics to suggest that the scheduled trial date favors denial, but recent cases tell a different story. In 2025, the district court has significantly delayed multiple scheduled trial dates, and has an average of 29 months to trial. *See Whirlpool Corp. et al. v. Shenzhen Sanlida Elec. Tech. Co.*, No. 2:22-CV-00027 (E.D. Tex. Mar. 25, 2025) (1092 days to trial); *Force Mos Tech., Co. v. ASUSTek Comput. Inc.*, No. 2:22-CV-00460 (E.D. Tex. Jan. 22, 2025) (802 days to trial); *Touchstream Techs., Inc. v. Charter Commc'ns. Inc.*, No.

2:23-CV-00059 (E.D. Tex. Feb. 17, 2025) (746 days to trial). PO's suggestion that "there are likely to be district court determinations relating to the validity of the '000 patent in advance of the Board's projected statutory deadline" (POPR, 7-8), is irrelevant as it does not address the timing of the *trials*. **These factors weigh strongly in favor of institution.** *See HP Inc.*, Paper 17 at 36, 38. PO never addressed the significant risk of inconsistent jury verdicts on validity (given that there will be three separate trials), which further favors resolving validity in one shot at the PTAB.

### **III. Factor 3 Favors Institution (Investment in Parallel Proceedings)**

Again, Petitioner Google is not a party in the district court proceedings and, thus, will not challenge the validity of the '000 patent in those proceedings.

As for the other parties, the Director focuses on the status of the district court proceedings *at the time the POPR was filed*, now that the interim guidelines have been rescinded. *Motorola Sols., Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19 at 3 (P.T.A.B. Mar. 28, 2025). In contrast to the facts of *Motorola*, the parties here have invested little energy into invalidity challenges of the '000 patent claims and Defendants have *not* proffered any invalidity contentions based on unpublished system prior art (which cannot be raised in an IPR even if they did). *Id.*, at 4. At the time of filing the POPR, the parties have only served preliminary invalidity contentions (which may change based on the yet-to-issue *Markman* order), and expert discovery relevant to claim validity has not yet opened (expert reports are due

April 21, 2025, and expert discovery closes May 23, 2025). Ex. 1039. The facts here further differ from *Motorola*, as there is a non-defendant petitioner, multiple unscheduled trials, and challenge of unasserted claims did not factor into the Director's analysis. Therefore, much work is still to be done in the district court case, and **this factor favors institution.**

#### **IV. Factor 4 Favors Institution (*Sotera* Stipulation and Overlap of Issues)**

Because Google is not a party to the parallel litigation, there cannot be any overlap for Google. Moreover, Petitioners present a *Sotera* stipulation. To mitigate any duplication concerns, if this IPR is instituted, Defendants will not pursue in District Court litigation the specific grounds asserted in this proceeding, or any other ground that was raised or could have been reasonably raised in an IPR. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (P.T.A.B. Dec. 1, 2020) (precedential); *BMW of No. Am., LLC v. Northstar Systems LLC*, IPR2023-01017, Paper 12 at 10 (P.T.A.B. Dec. 8, 2023). Furthermore, Pegasus has conceded that it “fully intends to narrow the number of asserted claims.” Ex. 1040, 1. Petitioners should not be penalized for PO's delay in narrowing claims. Therefore, **this factor favors institution.**

#### **V. Factor 6 Favors Institution (Other Factors)**

PO's arguments regarding the timing of the multiple petitions challenging its patents must be rejected. The Board should look no further than the present Petition

for purposes of weighing the *Fintiv* factors.

PO also challenges the merits of the Petition, arguing that the prior art cited in the Petition does not disclose or suggest “wherein the UL control channel resource set configuration information is received through UE specific radio resource control (RRC) signaling.” *Id.*, 22. However, the Petition and Dr. Roy are clear: all of Takeda, Yan, and Marinier teach this limitation.

For Grounds 1 and 2, PO *acknowledges* that Yan discloses “higher layer signaling” is used to provide configuration information to different terminal devices, but challenges that this higher layer signaling is RRC. *Id.*, 22-23. However, a POSITA would understand that RRC signaling *is the higher layer signaling that provides configuration information* to terminal devices (when downlink control information (DCI) does not provide the configuration information). Petition, 16-17; Ex. 1002, ¶¶ 130-134. The Petition points out that this was well-known, as demonstrated by Takeda, Marinier, and the 3GPP Technical specification, which describe RRC as “higher layer” signaling that provides configuration information. *See e.g.*, Petition, 12, 16-17, 38; Ex. 1007, [0024]; Ex. 1011, [0098]; Ex. 1018, 25.

Rather than provide contrary evidence, PO attempts to seed confusion about what constitutes “higher layer signaling” by focusing on Dr. Roy’s explanation of DCI. POPR, 25. However, Dr. Roy never intimates that DCI is a form of higher layer signaling. Dr. Roy describes DCI as a form of *physical layer* signaling, and user-

equipment specific RRC as the only “higher layer signaling” for providing configuration information to a user equipment. Petition, 16; Ex. 1002, ¶¶ 46-50, 133. Thus, when configuration information is provided using “higher layer” signaling (as described by Yan), it is well known that such signaling is provided with user equipment-specific RRC signaling. *See e.g.*, Ex. 1002, ¶ 83; Ex. 1007, [0224]; Ex. 1011, [0186].

PO’s Ground 4 arguments also fail. Marinier states that the WTRU receives “RRC signaling that configures one or more parameters that the WTRU should apply for transmission to a second serving site.” Petition, 56-57; Ex. 1011, [0186]. Marinier’s “parameters” include “dedicated PUCCH resources,” which the Petition and Dr. Roy explain are equivalent to the “UL control channel resource set configuration information” recited in Elements 1[a] and 1[f] of the ’000 patent claims. Petition, 52-53, 56-57; Ex. 1002, ¶¶ 275-278, 289-290. The PUCCH resources of the “parameters” used for transmission to a second serving site may be configured to transport uplink control information (UCI). Ex. 1011, [0078]; Petition, 55-57; Ex. 1002, ¶¶ 284-285, 289. The Petition and Dr. Roy explain that Marinier discusses a WTRU transmitting UCI (in the form of PUCCH transmissions) to numerous serving sites, including the “second” serving site mentioned specifically in the citation provided in the Petition’s discussion of Element 1[f]. *See* Petition, 55-57; Ex. 1002, ¶¶ 284-285, 289. Therefore, **this factor favors institution.**

Case No. IPR2025-00084

Patent No. 11,219,000

Respectfully submitted,

Date: April 11, 2025

By: /S. Benjamin Pleune/

S. Benjamin Pleune, Reg. No. 52,421

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. §§42.6(e), the undersigned hereby certifies that true and correct copies of the above-captioned **Petitioners' Reply to Patent Owner's Preliminary Response Under 35 U.S.C. §312 and 37 C.F.R. §42.104 and Petitioners' Exhibits 1039-1040** were served in its entirety on April 11, 2025, via filing through the Patent Trial and Appeal Case Tracking System (P-TACTS), as well as by delivering copies via electronic mail to the following:

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