

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC, CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS, T-MOBILE USA, INC., AT&T SERVICES, INC., NOKIA OF AMERICA, CORP.,
AND ERICSSON INC.,
Petitioners,

v.

PEGASUS WIRELESS INNOVATION LLC,
Patent Owner.

Case IPR2025-00291
U.S. Patent No. 10,594,460

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Memorandum Opinion and Order in <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 Dec. 11, 2024)
2002	Memorandum Opinion and Order in <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 Dec. 23, 2024)
2003	Reserved
2004	Defendants' Preliminary Invalidity Contentions in <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 May 17, 2024)
2005-2017	Reserved
2018	Comparison of Districts Within the Fifth Circuit — 12-Month Period Ending September 30, 2024 (available at https://www.uscourts.gov/sites/default/files/2025-02/fcms_na_distcomparison1231.2024.pdf)
2019-2049	Reserved
2050	Defendants' Amended Invalidity Contentions in <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 November 1, 2024)
2051	Defendants' Amended Invalidity Contentions in <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 December 23, 2024)
2052	Defendants' Motion for Leave to Amend Invalidity Contentions in <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. January 24, 2025)
2053	Appendices to Defendants' Amended Invalidity Contentions in <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 November 1, 2024)

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2054	Exhibits to Appendices of Defendants’ Amended Invalidity Contentions in <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 November 1, 2024)
2055	Exhibit E-12 to Appendix E of Defendants’ Amended Invalidity Contentions in <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 December 23, 2024)
2056-2149	Reserved
2150	U.S. Pat. Pub. 2020/0336269 (“Shen counterpart”)
2151	U.S. Pat. Pub. 2020/0389204 (“Matsumura counterpart”)
2152-2202	Reserved
2203	Consolidation Order in <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 Feb. 13, 2024)
2204	Fifth Amended Docket Control Order, issued April 14, 2025

Pursuant to 37 C.F.R. § 42.107, Pegasus Wireless Innovation LLC (“Pegasus” or “Patent Owner”) files this preliminary response to the Petition, setting forth reasons why the Petition for *inter partes* review (“IPR”) of claims 1-12 of U.S. Patent No. 10,594,460 (the “’460 Patent”), as requested by Google LLC, Cellco Partnership d/b/a Verizon Wireless, T-Mobile USA, Inc., AT&T Services, Inc., Nokia of America, Corp., and Ericsson Inc. (“Petitioners”), should be denied.¹

I. INTRODUCTION

The claims at issue in this proceeding are directed to improvements in transmitting and receiving uplink channels in a mobile communication system. Relevant to the challenges presented in the Petition, claim 1 of the ’460 patent is directed to a method for a user equipment (UE) to transmit an uplink (UL) control channel and a UL data channel to a base station (BS), and includes (*inter alia*) the following claimed elements: “[element 1.1] receiving, from a BS, bandwidth part (BWP) configuration information of a BWP set composed of one or more BWPs configured for a UE; [and element 1.2] receiving, from the BS, frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set.”

¹ By submitting this Preliminary Response, no waiver of any argument is intended by Patent Owner. Patent Owner will have a right to file a complete response to the Petition, should the Board institute *inter partes* review. 37 C.F.R. § 42.120(a).

The Petition presents Grounds 1, 3, and 4 against independent claims 1, 5, and 9, and includes numerous disputes regarding the alleged priority date to which these claims are entitled. *See, e.g.*, Pet., 19 (characterizing certain prior art as “Intervening Prior Art” and the remainder as “Non-Intervening Prior Art.”). Notwithstanding this dispute in priority date for the challenged claims, which Patent Owner will address post-institution if necessary, Grounds 1, 3, and 4 contain fatal merits defects that render each challenge insufficient for establishing unpatentability of any challenged claim.

In Ground 1, Petitioners make the fatal mistake of failing to address the above-recited features of element 1.2 as written, and instead compare the asserted Intervening Prior Art against isolated disclosures from the '460 patent specification. By failing to address element 1.2 as written, Petitioners therefore implicitly concede that the asserted Intervening Prior Art fails to anticipate this element 1.2.

Once Petitioners move past this distraction and evaluate element 1.2, it becomes clear that none of the Grounds disclose or suggest this element. As quoted above, element 1.2. requires the step of “receiving, from the BS, frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set.” Each asserted Ground fails to disclose or suggest “one transmission BWP” that includes

“frequency hopping configuration information for a UL control channel and a UL data channel.” In Ground 3, Petitioners cite to various disclosures of the asserted Intervening Prior Art and discuss transmissions of a UL data channel, but fail to point to any instance where that art uses frequency hopping configuration information for a UL control channel. In Ground 4, Petitioners attempt to combine one reference that addresses UL control channel, and other references that separately address UL data channel, but even in their proposed combination Petitioners fail to address why a POSITA would have been motivated to transmit by a BS “frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set.” These claimed features are neither disclosed nor suggested in Petitioners’ proposed combination. As such, each Ground fails.

Additionally, while Petitioners’ merits arguments possess clear defects that warrant Petition denial, Patent Owner is asking the Director to discretionarily deny the Petition within the time permitted to make such a request. Specifically, given the timing and advanced stage of co-pending litigation between the Petitioners and Patent Owner, the Director should deny the Petition under *Fintiv*. As enumerated below and as will be addressed in Patent Owner’s separate request for discretionary denial, each *Fintiv* factor weighs in favor of the Board exercising its discretion to deny institution or, at worst, remains neutral. The co-pending

litigation is scheduled to proceed to trial on September 8, 2025, nearly eleven months before the Board would be expected to issue a final written decision in this case (by August 6, 2026).

The parties had been litigating infringement and validity since the initiation of the District Court litigations, with expert infringement reports due in late April 2025. Patent Owner narrowed the dispute with Petitioners, and elected not to submit an expert infringement report addressing infringement of the '460 patent. However, this does not change the *Fintiv* analysis here. When confronting an eleven-patent dispute before a district court, efficiency should allow and encourage patent owners to have the flexibility to narrow the dispute without being forced to expend resources to litigate validity issues before the Board that will have no bearing on the litigation, solely because a party (or large group of parties) wants to continue challenging the patent and burdening a patent owner with more limited resources.

Patent Owner anticipates that Petitioners will argue that the Board should institute this proceeding because the District Court will not decide the validity of the '460 patent. But the fact that Patent Owner did not serve an expert infringement report regarding the '460 patent makes the validity of the '460 patent less important to the global dispute between the parties, not more important. Conserving resources of the Board also favors denial. There no reason to expend

Board resources to decide the validity of twelve patent claims that have been dropped from the co-pending litigation, particularly where a *Fintiv* denial is appropriate and warranted for the patents that remain in the litigation.

Therefore, Patent Owner respectfully submits that the Director should exercise its discretion and deny this Petition against the '460 patent.

II. THE '460 PATENT

The '460 Patent is entitled, "Apparatus and Method for Transmitting and Receiving Uplink Channel." Consistent with the '460 Patent's disclosure introduced above, independent claim 1 recites:

1. A method for a user equipment (UE) to transmit an uplink (UL) control channel and a UL data channel to a base station (BS), the method comprising:

receiving, from a BS, bandwidth part (BWP) configuration information of a BWP set composed of one or more BWPs configured for a UE;

receiving, from the BS, frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set; and

transmitting a UL control channel and a UL data channel to the BS through the transmission BWP based on the BWP configuration information and the frequency hopping configuration information,

wherein the frequency hopping configuration information for a UL data channel includes a frequency hopping offset set composed of one or more frequency hopping offset values, and

wherein a frequency hopping offset value used to transmit the UL data channel among the frequency hopping offset values included in the frequency hopping offset set is indicated by UL grant downlink control information (DCI).

'460 Patent, Claim 1 (emphasis added).

Claim 5 recites:

5. A method for a base station (BS) to receive an uplink (UL) control channel and a UL data channel from a user equipment (UE), the method comprising:

transmitting bandwidth part (BWP) configuration information of a BWP set composed of one or more BWPs configured for a UE to the UE;

transmitting frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one reception BWP of the BWP set to the UE; and

receiving the UL control channel and the UL data channel from the UE through the reception BWP based on the BWP configuration information and the frequency hopping configuration information,

wherein the frequency hopping configuration information for a UL data channel includes a frequency hopping offset set composed of one or more frequency hopping offset values, and

wherein a frequency hopping offset value used to transmit the UL data channel among the frequency hopping offset values included in the frequency hopping offset set is indicated by UL grant downlink control information (DCI).

'460 Patent, Claim 5 (emphasis added).

Claim 9 recites:

9. A user equipment (UE) for transmitting an uplink (UL) control channel and a UL data channel to a base station (BS), the UE comprising:

a receiver configured to receive, from a BS, bandwidth part (BWP) configuration information of a BWP set composed of one or more BWPs configured for the UE and *receive, from the BS, frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set*; and

a transmitter configured to transmit a UL control channel and a UL data channel to the BS through the transmission BWP based on the BWP configuration information and the frequency hopping configuration information,

wherein the frequency hopping configuration information for a UL data channel includes a frequency hopping offset set composed of one or more frequency hopping offset values, and

wherein a frequency hopping offset value used to transmit the UL data channel among the frequency hopping offset values included in the frequency hopping offset set is indicated by UL grant downlink control information (DCI).

’460 Patent, Claim 9 (emphasis added).

III. THE BOARD NEED NOT REACH ANY CLAIM CONSTRUCTION ISSUES TO DENY THE PETITION

Petitioners state “[i]n Related Litigation, Patent Owner proposed that certain claim terms should be given their plain and ordinary meaning. [Petitioners] proposed that the preambles of claims 1, 5, and 9 are limiting. ... [Petitioners] proposed that the plain and ordinary meaning of ‘configured to’ in claim 9 means ‘actually configured to and not merely capable of performing the claimed function.’ ... [Petitioners] proposed construing ‘a frequency hopping offset set composed of one or more frequency hopping offset values’ in claim elements [1.4], [5.4], and [9.4] as:

a frequency hopping offset set composed of multiple frequency hopping offset values.

...

Petitioners apply the constructions proposed in the Related Litigation in the Grounds below.” Pet., 22-23 (citation omitted). Petitioners did not provide any indication of their proposed constructions for terms other than those found in the Petition at 22-23.

Without waiving its right to submit constructions in a Patent Owner Response, Patent Owner submits that the Board need not engage in any pre-institution claim construction. For the substantive reasons presented in Section IV

below, Petitioner’s grounds include fundamental flaws and fail to establish the disclosure of every claimed element in each independent claim. These findings do not require the Board to conduct any construction of the above-identified terms.

IV. PETITIONERS’ CHALLENGES FAIL ON THE MERITS

Petitioners assert four grounds in their Petition, and three of those Grounds, Grounds 1, 3, and 4, apply to the independent claims (claims 1, 5, and 9). Ground 1 contends the independent claims, and certain dependent claims (claims 3, 7, and 11) are anticipated by, or obvious in view of Shen². Ground 3 contends the independent claims, and all of the dependent claims (claims 2-4, 6-8, and 10-12), are obvious over Zhang³ “optionally” in view of Matsumura⁴. Ground 4 contends the independent claims, and all of the dependent claims, are obvious over Yin⁵, TS 36.211⁶, TS 36.213⁷ and “optionally” in view of Jersenius⁸. For completeness,

² Ex. 1013, Certified English Translation of PCT International Publication No. WO 2019/136597 (“Shen”); *see also* Ex. 1012.

³ Ex. 1020, PCT International Publication No. WO 2018/203727, published on November 8, 2018 (“Zhang”).

⁴ Ex. 1019, Certified English Translation of PCT International Publication No. WO 2019/097659 (“Matsumura”); *see also* Ex. 1018.

⁵ Ex. 1021, PCT International Publication No. WO 2018/129085, published on July 12, 2018 (“Yin”).

⁶ Ex. 1024, Technical Specification, 3GPP TS 36.211 V11.6.0 (September 2014) (“TS 36.211”).

⁷ Ex. 1025, Technical Specification, 3GPP TS 36.213 V11.6.0 (March 2014) (“TS 36.213”).

⁸ Ex. 1023, U.S. Patent Publication No. 2013/0322493, published on December 5, 2013 (“Jersenius”).

Ground 2 is not used to shore up the deficiencies of the challenges against the independent claims in Grounds 1, 3, and 4. Instead, Ground 2 contends dependent claims 2, 4, 6, 8, 10, and 12 are obvious over Shen in view of Matsumura and R1-1801080⁹.

A. Ground 1 Fails At Least Because Shen Fails to Disclose or Render Obvious Element 1.2

Element 1.2 recites, in full, “receiving, from the BS, frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set.” Pet., 25. Rather than addressing the claim language as written, however, the Petitioners put the “interpretation” of this element in question, and raise an issue that is not permitted to be raised in an inter partes review proceeding, specifically, whether the claims as written are in compliance with 35 U.S.C. § 112(a).

Petitioners do not advance a specific construction of this claimed element in the section addressing claim construction. Rather, Petitioners assert that “[t]o the extent Patent Owner argues that the frequency hopping configuration information must be transmitted through one transmission BWP of the BWP set, the ’460 Patent does not support this interpretation.” Pet., 26. This is not an issue of claim

⁹ Ex. 1017, 3GPP TSG RAN WG1 NR Ad Hoc Meeting, NTT DOCOMO, INC. January 22-26, 2018 (“R1-1801080”).

validity based on “prior art consisting of patents and printed publications,” *see* 35 U.S.C. § 311(b), and is wholly inappropriate.

Nevertheless, Petitioners then proceed to compare Shen's disclosures with the specification of the '460 patent, rather than claim element 1.2. This is plain error, and serves as an implicit admission that Shen does not anticipate this claim.

Even Petitioners' back-up argument on element 1.2 fails. Petitioners contend that Shen's RRC signaling protocol messages contain frequency hopping configuration and are transmitted “on the PDCCH which transmits through the BWP (i.e. inside the BWP frequency range) to the UE.” Pet., 26-27. From this allegation, Petitioners conclude that “Shen therefore teaches that frequency hopping configuration information is transmitted through one transmission BWP of the BWP set.” Pet., 27 (citing Ex. 1031, ¶¶138-140). But this assertion is unsupported, and does not follow from Shen's disclosures.

Petitioners' sleight-of-hand here is to allege that the PDCCH is transmitted “inside the BWP frequency range,” but “inside the BWP frequency range” is a broad characterization and does not actually support that the PDCCH is transmitted through one “transmission BWP of the BWP set.” Indeed, Shen does not support a conclusion that the PDCCH is transmitted through one “transmission BWP of the BWP set.” Rather, per Shen, “the network device transmits a first configuration information of a transmission physical channel to the terminal, wherein the first

configuration information is used to indicate at least one frequency domain displacement separately configured for each of at least one BWP.” Ex. 1013, 5:21-23. But even if a PDCCH is used to transmit the “frequency domain displacement separately configured for each of at least one BWP,” Shen does not disclose that the PDCCH is transmitted through one “transmission BWP of the BWP set” as claimed. Simply using a frequency for a PDCCH transmission that happens to be within the BWP frequency range does not mean that Shen discloses the PDCCH being transmitted through one “transmission BWP of the BWP set” as claimed.¹⁰

Even Dr. Lanning's declaration fails to explain why transmission of an RRC signaling protocol message on a PDCCH corresponds to “one transmission BWP of the BWP set.” Rather, he mimics the assertions and citations from the Petition without further explanation. *See, e.g.*, Ex. 1031, ¶138 (repeating the incorrect assertions from page 26 the Petition regarding element 1.2).

¹⁰ Petitioners state that “Element [1.3] *infra* confirms that it is the UL control/data channels (i.e., PUCCH, PUSCH) which are transmitted through the “transmission BWP.”” Pet., 25. But this is wrong; element 1.3 states that UL control/data channels are transmitted to the BS “based on the BWP configuration information and the frequency hopping configuration information,” which is received in element 1.2. Transmitting via a BWP without yet having received the BWP configuration information defies logic, and Petitioners do not even try to explain such a theory.

Finally, Petitioners assert that claims 1, 3, 5, 7, 9, and 11 are obvious over Shen “[t]o the extent the Board determines that POSITA knowledge is necessary for the transmission of the frequency hopping configuration information through ‘one transmission BWP of the BWP set’ or ‘one reception BWP of the BWP set’” as claimed. Pet., 35-36. But Petitioners’ theory on this point once again relies on Petitioners’ misreading of Shen’s 5:19-37, including the transmission of a PDCCH to the UE “through the BWP (i.e. inside the BWP frequency range).” For the same reasons explained above, this theory fails.

The same logic applied for claim 1 is applied in Ground 1 against claim 3, 5, 7, 9, and 11, of which claims 5 and 9 are independent. Pet., 31 (element 5.2); 33 (element 9.1). For the same reasons that Ground 1 fails against claim 1, Ground 1 is facially deficient in establishing the unpatentability of challenged independent claims 5 and 9. Therefore, dependent claims 3, 7, and 11 are also valid over Petitioners’ Ground 1 challenge.

B. Ground 2 is Not Asserted to Remedy the Shortcomings of Ground 1

Ground 2 is advanced against dependent claims 2, 4, 6, 8, 10, and 12, and is not advanced to short up the deficiencies of Ground 1. Therefore, Ground 2 fails for at least the same reasons as Ground 1.

C. Ground 3 Also Fails for Failure to Disclose or Suggest at Least Element 1.2

Petitioners allege that Zhang anticipates claims 1-12, and specifically allege that Zhang discloses element 1.2. Petitioners first allege that “Zhang’s UL control/data channels (PUCCH/PUSCH) are transmitted through one transmission BWP (‘BWP resource’) of the BWP set.” Pet., 45 (citing Zhang, [0010-12] and [0020-21]). Embedded within this statement is the assertion that Zhang’s “BWP resource” constitutes “one transmission BWP” as claimed. However, Petitioners fail to explain or justify this characterization. Indeed, Zhang’s first discussion of “BWP resources” (after the Abstract) occurs in [0011], which recites “allocating BWP resources within the whole bandwidth and intra-BWP PRB resources to a UE.” Zhang, [0011]. Nothing about this disclosure indicates that a “BWP resource” constitutes “one transmission BWP” or even that a transmission occurring between a BS and UE would be limited to “one transmission BWP” among the “BWP resources allocated to the UE.” This characterization by Petitioners is unwarranted and unsupported by Zhang.

As noted, Petitioners cite to Zhang’s [0010-12] as discussed above, and also to [0020-21] to support its allegation. Pet., 45. However, Zhang’s [0020-21] also fails to support Petitioners’ allegations. These paragraphs are reproduced in full below, and clearly show that Zhang does not characterize a “BWP resource” as “one transmission BWP.”

[20]	According to still another aspect, an embodiment of the present disclosure further provides a UE, including:
[21]	a receiving module, configured to receive the BWP resource indication information transmitted by the base station and intra-BWP PRB resource indication information; and

Zhang, [0020-21]. Petitioners also cite to Zhang’s [0231] (Pet., 46), but this simply states that frequency hopping indication information is located in BWP indication information and intra-BWP PRB resource indication information.

[231]	wherein, if the uplink grant information carries the frequency hopping indication information, the frequency hopping indication information is located in the at least one of the BWP indication information and the intra-BWP PRB resource indication information.
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Zhang, [0231]. This does not support an interpretation that Zhang’s “BWP indication information” is transmitted “through one transmission BWP of the BWP set,” as claimed. Instead, Zhang discloses that the “at least one of bandwidth part (BWP) resource indication information [is] for indicating BWP resources that is allocated by the BS to the UE” Zhang, [202]. Notably, Zhang never breaks

down the disclosed “BWP resources that [are] allocated by the BS to the UE” into individual BWPs, or even “one transmission BWP of the BWP set,” as claimed, and Petitioners’ Ground 3 cannot and does not identify such a disclosure. These features are plainly absent from Zhang, and the Petition fails to support its allegation that Zhang anticipates claim 1, or any other independent claim.

As another defect in Petitioners’ theory based on Zhang, Petitioners fail to correlate Zhang’s BWP resources to both Zhang’s UL data channel and UL control channel.

Notably, the Petition becomes very ambiguous regarding uplink transmissions beginning in element 1.3. Rather than explaining how Zhang’s BWP resources are used for both UL data channel and UL control channel transmissions, Petitioners blur the distinction, asserting generally that the “UE determines the PRB resources used for *UL transmission* allocated within the uplink BWP based on the intra-BWP inter-PRB frequency hopping resource allocation information (i.e., frequency hopping configuration information) in the intra-BWP PRB resource indication information.” Pet., 46.

And, as noted above, Zhang discloses that the “at least one of bandwidth part (BWP) resource indication information [is] for indicating BWP resources that is allocated by the BS to the UE” Zhang, [202]. Zhang’s [0231] then states that frequency hopping indication information is located in BWP indication

information and intra-BWP PRB resource indication information. However, while addressing element 1.4, once Petitioners begin to discuss Zhang's transmissions from the UE, Petitioners can only point to transmissions for a UL data channel. *See* Pet., 47. Specifically, Petitioners point to Zhang's [0460] to allege that "Zhang's frequency hopping configuration information (the intra-BWP PRB resource indication information allocated to the UE by the BS) *for a UL data channel* includes a frequency hopping offset set, such as an intra-BWP PRB resource block group ('RBG') offset indication for different BWPs, composed of one or more frequency hopping offset values." Pet., 47 (emphasis added). Left unaddressed by Petitioners is how the BWP resources allocated to a UE are used for UL control channel transmissions, if at all.

Thus, the assertion that Zhang's BWP resources are used for UL control channel transmissions is unexplained in the Petition, unsupported by Zhang, and constitutes a major defect in Petitioners' Ground 3 challenge.

Finally, Petitioners' use of Matsumura and R1-1801080 in Ground 3 are not to remedy the above-described deficiencies of Zhang alone. Rather, Matsumura is provided to clarify Zhang's "frequency hopping offset set composed of one or more frequency hopping offset values" (Pet., 51), and R1-1801080 is relied upon to prop up features from dependent claims 4, 8, and 12. Pet., 52-53.

Thus, the deficiencies described above for Zhang alone are fatal to Petitioners' Ground 3. This Ground 3 does not warrant institution and should be denied on the merits.

D. Ground 4 Also Fails Because Petitioners' Combination is Unsupported and Still Lacks All Claimed Features

Petitioners allege that primary reference “Yin discloses Claim 1, with the exception of a UL data channel (PUSCH), in which the frequency hopping configuration information is configured.” Pet., 53. Petitioners then concede that “[b]ecause Yin does not disclose a PUSCH, Yin does not disclose PUSCH frequency hopping: i.e., a frequency hopping offset set composed of one or more frequency hopping offset values configured for the PUSCH or that the frequency hopping offset value is indicated by the UL grant DCI.” *Id.* In an attempt to remedy this acknowledged shortcoming of Yin, Petitioners propose to combine Yin with TS 36.211 and TS 36.213. However, the argument for combining these references is conclusory and fails.

Petitioners specifically assert that “[e]nhancing Yin’s PUCCH frequency hopping with the PUSCH frequency hopping configuration methods described in TS 36.211 and TS 36.213 would have been an obvious way to improve the flexibility and/or efficiency of the UE resource allocation in exactly the manner contemplated by Yin.” Pet., 56-57. However, the “and/or” language of this assertion is facially ambiguous. Reinforcing the lack of an actual theory on how

these improvements are achieved with the proposed combination, Petitioners fail to address what “flexibility and/or efficiency” would have driven this combination.

Petitioners further assert that “[s]uch a modification would have been routine, and according to known methods, to obtain predictable results with a high probability of success.” Pet., 57. Neither the Petition nor Dr. Lanning explain these conclusory assertions. Dr. Lanning’s paragraph 301, which is cited for support, simply repeats the same conclusory assertions as shown below:

301. Such a modification would have been routine, and according to known methods, to obtain predictable results with a high probability of success.

Ex. 1031, ¶301.

Continuing, the Petition once again contends that the combination would have been “an obvious way to improve the flexibility and/or efficiency of the UE resource allocation in exactly the manner contemplated by Yin.” Pet., 58. It again concludes without further explanation that “[s]uch a modification would have been routine, and according to known methods, to obtain predictable results with a high probability of success.” Pet., 58. And once again, Dr. Lanning repeats these same conclusory assertions, as shown below:

306. Such a modification would have been routine, and according to known methods, to obtain predictable results with a high probability of success.

Ex. 1031, ¶306.

These conclusory assertions mask a purely hindsight-based justification for proposing to combine Yin with TS 36.211 and TS 36.213. This combination should be rejected.

Further, even Petitioners' combination fails to disclose or suggest all claimed features. Specifically, element 1.2 recites, in full, "receiving, from the BS, frequency hopping configuration information for a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set." Petitioners rely on Yin to disclose frequency hopping configuration information for a UL control channel, and allege that "Yin's UL control channel (PUCCH) is transmitted through one transmission BWP (PUCCH region or subband) of the BWP set." Pet., 55-56. As Petitioners concede, Yin "does not explicitly disclose configuring frequency hopping for the UL data channel (PUSCH)," and look to TS 36.211 and TS 36.213 for these features. Pet., 56. However, even if TS 36.211 and TS 36.213 were combined with Yin as alleged by Petitioners, there is no reason advanced in the Petition for why any frequency hopping information for a UL data channel to be transmitted along with frequency hopping configuration information for a UL control channel "through one transmission BWP of the BWP set." Even according to Petitioners' theory of combined references, that claimed feature is still missing from the proposed combination and never addressed in

Petitioners’ theory of element 1.2. *See* Pet., 56-57 (failing to address how a combination of Yin and TS 36.211 and TS 36.213 yields “frequency hopping configuration information for [both] a UL control channel and a UL data channel transmitted through one transmission BWP of the BWP set.”). Thus, Ground 4 fails to establish any likelihood of success.

E. Grounds 1-4 are Unsuccessful in Establishing Unpatentability of any Challenged Claim

Even without addressing Petitioners’ spurious critique of whether the ’460 patent is entitled to its foreign priority dates, Petitioners’ challenges fail on the merits. Thus, for the reasons discussed above, the Petition should be denied without institution.

V. THE DIRECTOR SHOULD DENY INSTITUTION UNDER *FINTIV*

The Director can and should deny the Petition by exercising its discretion under 35 U.S.C. § 314(a) because the correct balance of relative factors weighs in favor of denial.

When evaluating whether to discretionarily deny a petition, the Director may look to at least six factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;

2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the Petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 5-6 (PTAB Mar. 20, 2020).

“These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* In evaluating these factors, the Director may take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.*¹¹

A proper balance of the *Fintiv* factors warrants denial of institution.

A. Factor 1 Favors Denial (Likelihood of Stay)

¹¹ On February 28, 2025, the USPTO rescinded the “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation” (“Interim *Fintiv* Procedure”) dated June 21, 2022. The Interim *Fintiv* Procedure no longer applies to the *Fintiv* analysis. The most recent *Fintiv* guidance is included in the Chief Administrative Patent Judge’s Memorandum of March 24, 2025 and the Director’s Memorandum issued on March 26, 2025.

Factor 1—which considers whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted—favors denial of institution. An institution decision in this case is due about *one month* before the scheduled trial, and institution decisions for at least three other involved patents are on this same late timeline. A stay under these circumstances would be unprecedented, and Petitioners have not presented argument or evidence to the contrary.

Further, Petitioners have not moved for a stay of the district court litigation. Petitioners cite to a discovery dispute to suggest Factor 1 weighs against discretionary denial. Pet., 66. But Petitioners did not establish that the outcome of the discovery dispute—whether non-jurisdictional discovery may proceed against a KT Corporation prior to resolving KT Corporation's jurisdictional dispute—will affect the trial date of September 8, 2025 set by the district court. In fact, since the Petition was filed, the district court has twice granted motions for a protective order against non-jurisdictional discovery without any suggestion that the trial date would be adjusted. Ex. 2001; Ex. 2002. Moreover, in the months after its Petition was filed, Petitioners have not requested a stay or that the trial date be adjusted.

Any stay is also unlikely due to the significant case progression (discussed in factor 3), a scheduled jury trial preceding any final written decision by roughly eleven months (discussed in factor 2), and the timing of institution decisions on the

eight other pending IPRs against patents asserted in the same litigations (discussed in factor 6). Additionally, two of Petitioners’ other IPRs—IPR2025-00036 and IPR2025-00037—have already been denied by the Board under *Fintiv*, on April 25, 2025, due to the extensive activities that have already occurred in the co-pending litigation, the schedule of the upcoming trial, and the overlap in parties between those IPRs and the litigation. Between these *Fintiv* denials and the late stage of the co-pending litigation, a stay would be unprecedented.

The first *Fintiv* factor therefore supports denying institution or at worst remains neutral.

B. Factor 2 Favors Denial (Timing of Trial)

Fintiv factor 2 weighs in favor of denying institution because the district court is set to commence trial on September 8, 2025, nearly eleven months before the Board’s final decision would be expected to be due, on or about August 6, 2026. *See* Ex. 1035, 2; Ex. 2204. “If the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising authority to deny institution under *NHK*.” *Fintiv*, IPR2020-00019, Paper 11 at 9.

This timeline undisputedly favors denial, as determined by the Board in two of Petitioners’ other IPRs—IPR2025-00036 and IPR2025-00037—against patents in suit. Those two IPRs were denied by the Board under *Fintiv*, on April 25, 2025,

due to the extensive activities that have already occurred in the co-pending litigation, the schedule of the upcoming trial, and the overlap in parties between those IPRs and the litigation.

The Board has previously held that a trial date which precedes a final written decision deadline by five, four and even one-to-two months favors discretionary denial. *See, e.g., Samsung Elecs. Co., Ltd. v. Mojo Mobility Inc.*, IPR2023-01092, Paper 11 at 11 (PTAB Jan 8, 2024) (denying institution, finding that a trial date “about five months before the projected statutory deadline” favored discretion to deny); *Bentley Motors Ltd., Jaguar Land Rover Ltd.*, IPR2019-01539, Paper 9 at 14 (PTAB Mar. 10, 2020) (denying institution where trial was set to occur five months before final written decision); *Immersion Sys. LLC v. Midas Green Techs., LLC*, PGR2021-00104, Paper 15 at 11 (PTAB Jan. 31, 2022) (jury trial starting four months ahead of final written decision favored discretionary denial); *see also NXP USA, Inc. v. Impinj, Inc.*, PGR2022-00005, Paper 18 at 8-9 (PTAB May 2, 2022) (two-month period between trial date and deadline for final decision weighed in favor of discretionary denial); *E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16 at 6-9 (PTAB May 15, 2019) (one-month period between trial date and deadline for final written decision weighed in favor of discretionary denial); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12-13 (PTAB May 13, 2020) (second factor favors denial when “the currently scheduled District

Court trial is scheduled to begin two months before our deadline to reach a final decision”); *eClinicalWorks, LLC v. Decapolis LLC*, IPR2022-00229, Paper 10 at 9 (PTAB Apr. 13, 2022) (favoring denial where beginning of jury trial was “roughly one to two months” before final decision was due).

The USPTO’s Interim *Fintiv* Procedure, which was rescinded on February 28, 2025, provided that the “[p]arties may present evidence regarding the most recent statistics on median time-to-trial for civil actions in the district court in which the parallel litigation resides for the PTAB’s consideration ... the PTAB will also consider additional supporting factors, such as the speed and availability of other case dispositions.” *See* Interim *Fintiv* Procedure, 8-9; Memorandum from Chief Administrative Patent Judge at 3 (Mar. 24, 2025).

Here, the December 2024 statistics for the median time-to-trial in the Eastern District of Texas show a period of 23.0 months. Ex. 2018 at 5, (available at https://www.uscourts.gov/sites/default/files/2025-02/fcms_na_distcomparison1231.2024.pdf). The median time-to-trial statistics for the district are thus consistent with the September 2025 trial date set out in Judge Gilstrap’s Docket Control Order, as the median time-to-trial statistics for the district predict a trial date in November 2025 (Ex. 2018) based on the December 29, 2023 filing date in district court. This small difference between the scheduled trial date and the statistical prediction—only about two months—still places the

district court's jury trial well before the estimated date of completion of this proceeding, on or around August 6, 2026. Accordingly, *Fintiv* Factor 2 weighs significantly in favor of denial. *Samsung Elecs.*, IPR2023-01092, Paper 11 at 11-12 (using statistics to “confirm[] that the schedule set by the district court is credible and should be given weight”).

Also, the suggestion in the Petition that there would be “post-trial motions” (Pet., 67) in order to suggest a later completion date for the district court litigation is inconsistent with *Fintiv* and provides an incorrect measurement. *Fintiv* does not account for activities occurring at the USPTO following a Final Written Decision, such as requests for rehearing or requests for Director Review, when considering whether there would be an undesirable overlap of activities. Instead, the time posts for measurement set out in *Fintiv* compare the date of the expected Final Written Decision to the expected trial date.

Judge Gilstrap has already set the date for the initial jury trial, and that jury trial will conclude well before the Board's projected statutory deadline. *See* Ex. 1035; Ex. 2204. Additionally, the Court's Scheduling Order requires dispositive motions on issues such as (in)validity to be filed by June 2, 2025, and requires defendants to identify final invalidity theories by September 1, 2025. *See* Ex. 1035, 4 (setting the deadline for dispositive motions); *id.*, 2 (setting the deadline to disclose final invalidity theories); Ex. 2204 (same).

Petitioners’ attempt to minimize the closeness of the scheduled trial date with the suggestion that “jury selection would proceed with respect to only one of the three cases” (Pet., 66-67) does not reduce the weight in favor of discretionary denial in this proceeding. When presented with a similar situation and argument, the PTAB has held “[e]ven if the proceedings are staggered, at least one of the proceedings would likely begin and conclude well before our decision, making it highly likely that there will be duplicate efforts in evaluating the challenged claims based on the prior art.” *AT&T Serv. Inc. v. ASUS Tech. Licensing Inc.*, IPR2024-00992, Paper 14 at 10-11 (PTAB Dec. 16, 2024) (weighing Factor 2 “substantially in favor of discretionary denial”); *see also AT&T Serv. Inc. v. ASUS Tech. Licensing Inc.*, IPR2024-01142, Paper 14 at 13 (PTAB Jan. 27, 2025); *AT&T Serv. Inc. v. ASUS Tech. Licensing Inc.*, IPR2024-01121, Paper 14 at 11-12 (PTAB Jan. 27, 2025). Further, all three cases are consolidated before Judge Gilstrap for all pre-trial purposes and therefore will be on equal procedural footing when the first trial begins on September 8, 2025.

Also, *HP Inc., et al. v. Neodron Ltd.*, IPR2020-00459, Paper 17 at 36, 38 (PTAB Sept. 14, 2020) does not support Petitioners’ theory that different trial dates weigh against discretionary denial. Rather, in *HP*, factor 2 was treated as neutral where one litigation—involving two of the co-petitioners—was stayed pending IPR. *Id.*, at 34 (noting the “ND Cal. action ... has been stayed pending [IPR].”).

No stay is in place in this case, and a stay is unlikely to be granted. Further, all three cases are consolidated for all pre-trial purposes and therefore will be on equal procedural footing when the first trial begins on September 8, 2025. Therefore, even the conclusion in *HP* that this factor was “neutral” cannot apply here.

Google’s status as a co-petitioner here does not alter the analysis. Google joined the named defendants as a co-Petitioner, knowing that Google could be subject to the same post-IPR estoppel statutes as the named defendants. This shows Google’s willingness to be treated on parity with the other Petitioners and does not insulate all Petitioners from a *Fintiv* denial. *See Google LLC v. Cerence Operating Co.*, IPR2024-01465, Paper 15 at 13-14 (PTAB April 23, 2025) (“Petitioner Google’s presence in this proceeding does not raise the concerns that a *Fintiv* analysis is designed to address.”). *IQE PLC v. Cornell Rsch. Found. Inc.*, IPR2024-00609, Paper 9 at 12-13 (PTAB Sept. 13, 2024), cited by Petitioners in a separate IPR, is completely inapposite, as IPR2024-00609 was a ***single-petitioner case***, and did not involve a mixing of defendant and non-defendant petitioners. *IQE* does not even remotely suggest that Google’s involvement here insulates the other Petitioners from the *Fintiv* analysis.

Finally, while Petitioners may speculate that the scheduled trial date might change, it would need to be delayed by eleven months—from September 2025 to August 2026—to put a final written decision ahead of trial. Speculation is not

enough to modify this factor, which weighs heavily in favor of discretionary denial.

Thus, *Fintiv* factor 2 substantially weighs in favor of discretionary denial.

C. Factor 3 Favors Denial (Investment in Parallel Proceedings)

Factor 3 also weighs in favor of denial because the district court and both Patent Owner and Petitioners will have expended considerable resources in the parallel litigation, including on the merits of Petitioners’ invalidity positions, by the time the Board issues an institution decision. *See Sand Revolution II, LLC v. Cont’l Intermodal Grp.*, IPR2019-01393, Paper 24 at 10 (PTAB June 16, 2020) (noting that investment in invalidity contentions is relevant to this factor).

For factor 3, “the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision” may be considered. *Fintiv*, IPR2020-00019, Paper 11 at 9. “This investment factor is related to the trial date factor, in that more work completed by the parties and the court in the parallel proceeding tends to support the arguments that the parallel proceeding is more advanced, a stay may be less likely, and instituting would lead to duplicative costs.” *Id.*, 10.

Here, Patent Owner served infringement contentions on Petitioners in district court on March 18, 2024, allowing Petitioners ample time to prepare and serve their district court invalidity contentions on May 17, 2024, approximately

two months later. Pet., 68; *see also* Ex. 2004, 2250-2252. Yet, Petitioners delayed until December 27, 2024—over nine months after receiving infringement contentions—to file its Petition challenging the ’161 patent. Despite noting the date that the invalidity contentions were served in its Petition (Pet., 68), Petitioners provide no justification for the delay in filing their Petition. The PTAB has found when examining *Fintiv* that where “Petitioner has not presented any factual evidence to justify” a delay after being served with infringement contentions, factor 3 weighs in favor of denial of institution. *See AT&T Serv.*, IPR2024-00992, Paper 14 at 12 (“the record shows that Petitioner waited five months to file the Petition after receiving Patent Owner’s infringement contentions, and Petitioner has not presented any factual evidence to justify this delay.”) (citing *Fintiv*, IPR2020-00019, Paper 11 at 11–12); *see also AT&T Serv.*, IPR2024-01142, Paper 14 at 13-15; *AT&T Serv.*, IPR2024-01121, Paper 14 at 12-13.

The facts here weigh even more in favor of denial than in the *AT&T Services* cases. Here, there was a delay of an additional four months from the date when the infringement contentions were served as compared to *AT&T Services*. Also, Petitioners served their own set of invalidity contentions in district court and are seeking to amend their initial contentions.

Petitioners assert four grounds in their Petition, and three of those Grounds, Grounds 1, 3, and 4, apply to the independent claims (claims 1, 5, and 9). Ground

1 contends that the independent claims, and certain dependent claims (claims 3, 7, and 11) are anticipated by, or obvious in view of Shen¹². Ground 3 contends the independent claims, and all of the dependent claims (claims 2-4, 6-8, and 10-12), are obvious over Zhang¹³ “optionally” in view of Matsumura¹⁴. Ground 4 contends the independent claims, and all of the dependent claims, are obvious over Yin¹⁵, TS 36.211¹⁶, TS 36.213¹⁷ and “optionally” in view of Jersenius¹⁸. For completeness, Ground 2 is not used to shore up the deficiencies of the challenges against the independent claims in Grounds 1, 3, and 4. Instead, Ground 2 contends dependent claims 2, 4, 6, 8, 10, and 12 are obvious over Shen in view of Matsumura and R1-1801080¹⁹.

¹² Ex. 1013, Certified English Translation of PCT International Publication No. WO 2019/136597 (“Shen”); *see also* Ex. 1012.

¹³ Ex. 1020, PCT International Publication No. WO 2018/203727, published on November 8, 2018 (“Zhang”).

¹⁴ Ex. 1019, Certified English Translation of PCT International Publication No. WO 2019/097659 (“Matsumura”); *see also* Ex. 1018.

¹⁵ Ex. 1021, PCT International Publication No. WO 2018/129085, published on July 12, 2018 (“Yin”).

¹⁶ Ex. 1024, Technical Specification, 3GPP TS 36.211 V11.6.0 (September 2014) (“TS 36.211”).

¹⁷ Ex. 1025, Technical Specification, 3GPP TS 36.213 V11.6.0 (March 2014) (“TS 36.213”).

¹⁸ Ex. 1023, U.S. Patent Publication No. 2013/0322493, published on December 5, 2013 (“Jersenius”).

¹⁹ Ex. 1017, 3GPP TSG RAN WG1 NR Ad Hoc Meeting, NTT DOCOMO, INC. January 22-26, 2018 (“R1-1801080”).

On November 1, 2024, and again on December 23, 2024, Petitioners sought to increase the overlap by providing Patent Owner amended invalidity cover pleadings and later moved for leave to amend its invalidity contentions. Exs. 2050-2052. In the amendment, Petitioners included claim charts addressing the same references asserted by Petitioners (Shen²⁰, Zhang, Matsumura²¹, Yin, and R1-1801080) in each of the grounds of its Petition for every claim challenged in the co-pending litigation. *See, e.g.*, Exs. 2051, 8, 20-22, 37 (cover pleading); Ex. 2053, 29-44 (Appx. E); Ex. 2054, 204-229 (Ex. E-8) (Shen/Shen counterpart); Ex. 2054, 230-256 (Ex. E-9) (Matsumura/Matusmura counterpart); Ex. 2054, 257-290 (Ex. E-10) (Zhang); Ex. 2054, 291-294 (Ex. E-11) (R-1801080); Ex. 2055, 2-38 (Ex. E-12) (Yin). For 36.211, 36.213, and Jersenius, Petitioners provided a narrative contention. *See* Ex. 2051, 212-213. Patent Owner and Petitioners will have expended substantial resources in the parallel litigation, including on the merits of

²⁰Shen and its counterpart are substantially the same, as the Shen counterpart is a U.S. counterpart application to Shen. Specifically, Shen is a PCT publication based on PCT application PCT/CN2018/071932. *See* Shen, 1 (item 21). The Shen counterpart is a continuation to the national stage entry of PCT application PCT/CN2018/071932. Ex. 2150 (item 63).

²¹Matsumura and its counterpart are substantially the same, as the Matsumura counterpart is a U.S. counterpart to Matsumura. Specifically, Matsumura is a PCT publication based on PCT application PCT/JP2017/041378. *See* Matsumura, 1 (item 21). The Matsumura counterpart is a national stage entry of PCT application PCT/JP2017/041378. Ex. 2151 (item 86).

the invalidity positions, where—as detailed below—there has been significant overlap of issues.

Indeed, given that the Board is projected to issue an institution decision by August 6, 2025, numerous labor-intensive activities such as these have taken place, or will take place, in the parallel litigations before that date. Fact discovery opened in early 2024, and is complete as of April 14, 2025. Further, Petitioners served their expert witness disclosures under Fed. R. Civ. P. 26(a)(2) relating to their invalidity contentions on April 21, 2025, and Patent Owner was required to similarly serve its infringement expert reports on that date.

Additionally, Patent Owner and Petitioners will expend significant time and resources relating to claim construction prior to August 6, 2025. The parties have exchanged preliminary claim constructions (November 26, 2024), prepared a Joint Claim Construction Statement (December 17, 2024), completed claim construction discovery (January 14, 2025), served claim construction briefing and optional technical tutorials (beginning January 28, 2025), and participated in a claim construction hearing (March 11, 2025). These activities have taxed the resources of Petitioners and Patent Owner, as well as the district court.

Finally, as noted in factor 2, the Court's Scheduling Order requires dispositive motions on issues such as (in)validity to be filed by June 2, 2025, and requires defendants to identify its final invalidity theories by September 1, 2025.

See Ex. 1035, 4 (setting the deadline for dispositive motions); *id.*, 2 (setting the deadline to disclose final invalidity theories); Ex. 2204 (same).

These investments in the district court proceeding favor denial.

D. Factor 4 Favors Denial (Overlap of Issues)

Factor 4 also weighs in favor of discretionary denial because there was substantial overlap between the claims, arguments, and evidence raised in the Petition and in Petitioners' invalidity contentions in the parallel district court proceeding.

As noted above, Petitioners assert four grounds in their Petition, and each of those Grounds relies on references found in the district court's invalidity contentions, including Shen, Zhang, Matsumura, Yin, 36.211, 36.213, Jersenius, and R1-1801080. *See, e.g.*, Exs. 2051, 8, 20-22, 37 (cover pleading); Ex. 2053, 29-44 (Appx. E); Ex. 2054, 204-229 (Ex. E-8) (Shen/Shen counterpart); Ex. 2054, 230-256 (Ex. E-9) (Matsumura/Matusmura counterpart); Ex. 2054, 257-290 (Ex. E-10) (Zhang); Ex. 2054, 291-294 (Ex. E-11) (R-1801080); Ex. 2055, 2-38 (Ex. E-12) (Yin); Ex. 2051, 212-213 (36.211, 36.213, and Jersenius). Thus, there was substantial overlap between the Petition and the district court proceeding, as the claims challenged and the primary references relied upon are substantially identical. Therefore, Petitioners' common prior art challenges to the claims renders the "overlap in issues between the two proceedings []

substantial.” *Code200, UAB v. Luminate Networks, Ltd.*, IPR2020-01506, Paper 10 at 11-12 (PTAB Feb. 16, 2021).

Moreover, none of the Petitioners has offered a *Sotera* stipulation. *Inter Partes* Review is intended to be a “quick and cost effective alternative[] to litigation,” not an avenue for Petitioners to argue invalidity a second time in a second venue. *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1317 (Fed. Cir. 2018) (quoting H. Rep. No. 112-98, at 40, 48 (2011)). Indeed, Petitioners’ failure to offer a *Sotera* stipulation, despite the substantial overlap between the proceedings, only highlights the concerns of duplicative efforts and conflicting outcomes raised by *Fintiv*.

Petitioners’ delay in filing their Petition and failure to file a *Sotera* stipulation with their Petition demonstrates their intent to conduct parallel proceedings. Given the lengthy time that passed between the filing of their invalidity contentions and their slow-rolled Petition, to the extent Petitioners attempt to file a belated *Sotera* stipulation in response to this brief, the Director should give it little weight as it would encourage gamesmanship and reward petitioners for multiplying parallel proceedings.

Further demonstrating the intent to present overlapping contentions, Petitioners’ invalidity contentions explicitly signal that Petitioners intended to rely on systems embodying at least the Shen, Zhang, Yin, and 3GPP disclosures upon

which it relies here. *See* Ex. 2004, 38 (“Moreover, in certain instances, representative documents for certain prior art systems are cited, but, again, are merely exemplary; they do not necessarily reflect or include every document relating to the prior art system that exists and that discloses or teaches a particular claim term or claim limitation. ***Defendants reserve the right to rely on any and all documents that describe or relate to prior art systems, including relying on the system itself.*** Defendants also reserve the right to rely on the testimony of the authors, named inventors, or anyone else with knowledge of the prior art references and systems identified herein, as well as expert testimony regarding any such references or systems.”) (emphasis added); Ex. 2004, 14 n.5 (“Defendants also hereby ***identify any systems or products that embody the technology described in any patent or publication identified in these Preliminary Invalidity Contentions.*** Defendants reserve the right to rely on any documents or other evidence regarding such systems.”) (emphasis added); Ex. 2004, 29 (“All systems or products that embody the technology described in any patent or publication identified in these Preliminary Invalidity Contentions”); *see also* Ex. 2004, 8 n.2 (indicating Petitioners intend to “seek[] additional information related to the references and systems disclosed in these Preliminary Invalidity Contentions, and seek[] additional information related to available prior art systems”); Ex. 2050, 8 n.2, 9 n.5, 31, 34, 40; Ex. 2051, 9 n.2, 15 n.5, 31, 34-35, 41. Given that IPRs

cannot reach the system prior art, even a *Sotera*-stipulation would not reduce the inefficiencies presented with these multiple proceedings. *See Motorola Sols., Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19 at 3-4 (PTAB Mar. 28, 2025).

Petitioners’ assertion in district court of *additional* prior art and *additional* combinations of art than those asserted here does nothing to alter the degree of overlap between the Petition and its invalidity contentions. *See, e.g., Fintiv*, IPR2020-00019, Paper 15 at 15 (finding Petitioner’s assertion of additional invalidity contentions “not relevant to the question of the degree of overlap for this factor”).

Petitioners argue that there is not perfect overlap between this IPR and the district court cases “because there are 12 claims asserted in this case and a total of 113 asserted in the related district court cases” (Pet., 68-69), but this argument misses the mark. The 113 litigated claims include claims in patents other than the ’460 patent, and the existence of other litigated claims does not diminish the overlap that existed between the claims in this IPR and the same twelve litigated claims before the District Court. But even when there is not a perfect alignment between the claims in IPR and litigation, the Board has repeatedly ruled that the assertion of additional claims does nothing to mitigate “substantial” overlap in issues between the two proceedings where common prior art is presented and common independent claims are challenged. *See, e.g., Code200, UAB*, IPR2020-

01506, Paper 10 at 11-12 (“In light of the common prior art asserted here and in the [] district court case, as well as the common challenge to the sole independent claim and all but two of the dependent claims of the [’384] patent, we agree with the Patent Owner that the overlap in issues between the two proceedings is substantial.”); *see also Teso LT UAB v. Luminati Networks Ltd.*, IPR2021-00122, Paper 12 at 10 (PTAB Apr. 20, 2021) (denial of institution favored where Petition’s prior art references were all identified in the district court invalidity contentions, the same independent claims were challenged in both proceedings, and “the *additional* claims challenged in the Petition are all dependent claims”).

Therefore, due to the substantial overlap that existed between the Petition and the parallel proceedings, there are particularly strong “concerns of inefficiency” if the IPR is instituted. *See, e.g., Fintiv*, IPR2020-00019, Paper 11 at 12 (finding “concerns of inefficiency” where there is substantial overlap).

Accordingly, factor 4 weighs strongly in favor of denying institution. *See Teso LT UAB*, IPR2021-00122, Paper 12 at 10 (finding “the overlap in issues between the two proceedings is substantial” where common art and common challenges to the independent claim were presented in both proceedings); *see also eClinicalWorks*, IPR2022-00229, Paper 10 at 12 (finding factor 4 weighed in favor of denial where Preliminary Invalidity Contentions showed overlap of asserted claims, art and arguments asserted in the Petition); *U.S. Venture, Inc. v. Sunoco*

Partners Mktg. & Terminals L.P., IPR2020-00728, Paper 10 at 12-14 (PTAB Oct. 1, 2020) (finding overlap between primary references asserted in Petition and litigation weighed in favor of denial).

For each of these reasons, factor 4 strongly favors discretionary denial.

E. Factor 5 Favors Denial (Overlapping Parties)

Patent Owner is the plaintiff and Petitioners are involved in the parallel litigation (Ex. 1035; Ex. 2204),²² and “because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.” *Samsung Elecs. Co. v. Clear Imaging Research, LLC*, IPR2020-01401, Paper 12 at 21-22 (PTAB Feb. 17, 2021) (quoting *Fintiv*, IPR2020-00019, Paper 15 at 15). Factor 5 weighs strongly in favor of denial for the same reasons presented above for Factor 2.

F. Factor 6 Favors Denial (Other Factors)

Also weighing in favor of denial are at least two other factors: the manner in which Petitioners’ various IPR challenges have been presented, and the substantive defects in the Petition.

²² To the extent Petitioners argue that the presence of Google as a Petitioner in this proceeding lessens the weight of Factor 5, that argument should be rejected. The inefficiencies caused by the presence of the numerous overlapping petitioners are not abated simply by including a petitioner who is not a named defendant in the underlying district court litigation.

IPR2025-00291 Patent Owner's Preliminary Response

The litigation dispute between Patent Owner and Petitioners involves 11 patents, and the three federal litigations involving those 11 patents were filed in the district court on a single day, December 29, 2023. But rather than present its IPR challenges in a single group, Petitioners filed their IPRs in a piecemeal fashion and on a slow-rolling basis. In total, over the period from October 18 to December 31, 2024, Petitioners filed eleven IPRs. The following table summarizes the dates the eleven IPRs were filed, the IPR proceeding number, the date on which the USPTO's Notice according a filing date was issued, the anticipated institution deadline, and the anticipated final written decision deadline²³:

Filing Date	IPR	Notice of Filing Date	Date of Institution Decision (Est.)	Date of Final Written Decision (Est.)
10/21/24	IPR2025-00036	10/30/24	4/25/25 (denied)	N/A
10/18/24	IPR2025-00037	10/30/24	4/25/25 (denied)	N/A
11/15/24	IPR2025-00083	12/9/24	6/9/25	6/9/26
11/15/24	IPR2025-00084	12/9/24	6/9/25	6/9/26
12/24/24	IPR2025-00137	1/17/25	7/17/25	7/17/26
11/27/24	IPR2025-00138	1/29/25	7/29/25	7/29/26
12/26/24	IPR2025-00290	2/6/25	8/6/25	8/6/26
12/27/24	IPR2025-00291	2/6/25	8/6/25	8/6/26
12/31/24	IPR2025-00292	2/6/25	8/6/25	8/6/26
12/31/24	IPR2025-00293	2/6/25	8/6/25	8/6/26
12/24/24	IPR2025-00317	1/17/25	7/17/25	7/17/26

²³ Google joined the Petitioners as an additional petitioner in each of these IPR proceedings except for IPR2025-00036 and IPR2025-00037.

Two of Petitioners’ other IPRs—IPR2025-00036 and IPR2025-00037—have already been denied institution by the Board under *Fintiv*, on April 25, 2025, due to the extensive activities that have already occurred in the co-pending litigation, the schedule of the upcoming trial, and the overlap in parties between those IPRs and the litigation. This IPR is one of nine remaining decisions on institution the Board or Director needs to make relating to the dispute between the Parties. As the Board or Director will approach the decisions serially, the strength of the *Fintiv* factors in favor of exercising discretion to deny institution will only become stronger. In particular, at least the first and third *Fintiv* factors will weigh more heavily in favor of denial as the estimated final written decision deadline for each IPR extends farther beyond the anticipated trial date of September 8, 2025.

Moreover, the complexity of this global dispute between Petitioners and Patent Owner encourages resolution in a single forum, without the risk of inconsistent results. While the Board generally evaluates each petition on its own, district courts have additional tools available for resolving suits involving multiple patents, including established procedures for such disputes, deadlines for narrowing issues including the asserted claims and the invalidity contentions, and driving resolution of the dispute as a whole. *Cf.* Pet., 69 (“The district court will likely reduce the asserted claims”). For example, as noted above, the district court has already consolidated the district court proceedings for “all pretrial issues” (Ex.

2203) and the consolidated action is progressing at pace towards a September 2025 trial date.

Further, Patent Owner has chosen to narrow the dispute by not serving an infringement expert report for the '460 patent involved in this proceeding, as well as for three other patents (Patent Owner did not serve expert reports for the patents involved in IPR2025-00083, -00290, -00291, and -00317). As noted above, such narrowing of a dispute in district court is both encouraged and expected. Yet, narrowing can present unequal considerations before the Board. A petitioner with more resources than a patent owner may be motivated to continue marching forward with *inter partes* review despite their being no tangible effect on the overall dispute other than the gamesmanship of taxing the resources of its district court opponent. Here, the potential for gamesmanship is heightened, as some of the largest companies in the world have teamed up in this proceeding.

When confronting an eleven-patent dispute before a district court, efficiency should allow and encourage patent owners to have the flexibility to narrow the dispute without being forced to expend their resources to litigate issues before the Board that will have no bearing on the dispute, regardless of whether a petitioner (or large group of petitioners) has the resources to continue to asymmetrically burden the patent owner.

As noted in the introduction above, Patent Owner anticipates that Petitioners will argue that the Board should institute this proceeding because the District Court will not decide the validity of the '460 patent. But the fact that Patent Owner did not serve an expert infringement report regarding the '460 patent makes the validity of the '460 patent less important to the global dispute between the parties, not more important. And conserving resources of the Board also favors denial, as there is also no reason to expend Board resources to decide the validity of fifteen patent claims that have been dropped from the co-pending litigation, particularly as a *Fintiv* denial is warranted and appropriate for patents still in the dispute.

Furthermore, the merits of this Petition are weak. Far from presenting “a compelling unpatentability challenge,” *see Fintiv*, IPR2020-00019, Paper 11 at 13-14, the flaws in Petition are numerous. As explained in the preceding Section IV, the merits of the challenges asserted in the Petition are not compelling, and do not support institution.

Even if the Board chooses not to evaluate the merits of the challenges, the remaining *Fintiv* factors overwhelmingly favor denial. Where the bulk of the factors weigh in favor of denial, the Board has found that it “need not decide whether the merits of Petitioner’s asserted grounds are particularly strong because it would not impact [the] ultimate determination under Section 314(a)” and “the merits do not outweigh the other *Fintiv* factors.” *NXP USA*, PGR2022-00005,

Paper 18 at 12-13 (finding that where factor 1 was neutral and factors 2-5 favored or slightly favored denial, factor 6 was neutral because it “would not impact [the] ultimate determination”); *Samsung Elecs.*, IPR2020-01401, Paper 12 at 23-25 (finding that where factors 1 and 4 slightly favored denial, factors 2 and 3 strongly favored denial, and factor 5 weighed in favor of denial, those factors outweighed any merits of the case considered in factor 6); *Apcon, Inc. v. Gigamon Inc.*, IPR2020-01579, Paper 9 at 26 (PTAB Mar. 16, 2021) (finding that the merits of the petitioner’s grounds do not outweigh the other factors in light of the strength of factors 2); *see also Fintiv*, IPR2020-00019, Paper 11 at 15 (“if the merits of the grounds raised in the petition are a close[] call, then that fact has favored denying institution when other factors favoring denial are present”).

Accordingly, for the reasons stated above, Factor 6, and each of the remaining *Fintiv* factors counsel in favor of the Board exercising its discretion to deny institution.

VI. CONCLUSION

For the reasons presented above, the Petition should be denied, and no *inter partes* review should be instituted.

IPR2025-00291 Patent Owner's Preliminary Response

Dated: May 5, 2025

/Wayne M. Helge/

Wayne M. Helge, Reg. No. 56,905

James T. Wilson, Reg. No. 41,439

BUNSOW DE MORY LLP

277 S. Washington St., Suite 210 #1088

Alexandria, VA 22314

T: (571) 208-0186

Email: whelge@bdiplaw.com

Email : jwilson@bdiplaw.com

Lead Counsel for Pegasus Wireless
Innovation LLC

CERTIFICATE OF WORD COUNT

The undersigned certifies that the foregoing PATENT OWNER'S PRELIMINARY RESPONSE complies with the type-volume limitation in 37 C.F.R. § 42.24(b)(1). According to the word-processing system's word count, the brief contains 10,031 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

By: /Wayne M. Helge/
Wayne M. Helge (Reg. No. 56,905)
Lead Counsel for Pegasus Wireless
Innovation LLC

CERTIFICATE OF SERVICE

Petitioner has consented to e-mail service in this proceeding. Pursuant to 37 C.F.R. §42.6, the undersigned certifies that on this date, a copy of the foregoing document was served by email upon the following counsel at the below email addresses:

BUCHANAN INGERSOLL & ROONEY PC
Patrick C. Keane – patrick.keane@bipc.com
Roger H. Lee – roger.lee@bipc.com
Andrew J. Koopman – andrew.koopman@bipc.com
Tanya S. Gaylord – tanya.gaylord@bipc.com
Samuel Harrod – samuel.harrod@bipc.com
Matthew L. Fedowitz, Esq. – matthew.fedowitz@bipc.com

ALSTON & BIRD LLP
S. Benjamin Pleune – ben.pleune@alston.com
Christopher TL Douglas – christopher.douglas@alston.com
J. Ravindra Fernando – ravi.fernando@alston.com

Dated: May 5, 2025

/Wayne M. Helge/
Wayne M. Helge (Reg. No. 56,905)
BUNSOW DE MORY LLP
277 S. Washington St., Suite 210, #1088
Alexandria, VA 22314
Email: whelge@bdiplaw.com
Telephone: 571-208-0186

Lead Counsel for Pegasus Wireless
Innovation LLC