

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.

KT CORPORATION (Patent Owner) and
PEGASUS WIRELESS INNOVATION LLC (Exclusive Licensee)

Case No. IPR2025-00292

Patent 9,894,644

**PETITIONERS' OPPOSITION TO PATENT OWNER'S
REQUEST FOR DISCRETIONARY DENIAL**

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I. INTRODUCTION

Pursuant to the Director’s Memorandum issued on March 26, 2025, Petitioners file this opposition to Patent Owner’s Request For Discretionary Denial, Paper 12 (“Request”). Patent Owner (“PO”) has requested discretionary denial of institution of the Petition for *inter partes* review of the ’644 Patent on the basis that “each *Fintiv* factor weighs in favor of the Board exercising its discretion to deny institution” in view of the related district court litigation, *Pegasus Wireless Innovation LLC v. Cellco Partnership d/b/a Verizon Wireless et al.*, No. 2:23-cv-00640-JRG (E.D. Tex.) (“Related Litigation”). Request, 1. However, PO mischaracterizes several material facts while ignoring others in seeking discretionary relief from an otherwise meritorious petition.

One trial is scheduled in the Related Litigation prior to an expected decision in this proceeding. However, as set forth below, trials against other Petitioners have not been scheduled and one Petitioner, Google, is not a party to any trial. Importantly, recent PTAB case law supports institution in this case notwithstanding the trial schedule in the Related Litigation. *See, e.g., Google LLC v. Mullen Industries LLC*, IPR2025-00019, Paper 14 (PTAB May 12, 2025). Moreover, PO has recently moved to dismiss four of the patents at issue in the Related Litigation, along with numerous claims of the remaining patents. This fact, coupled with the absence of system prior art contentions and the planned submission of *Sotera*

stipulations with respect to all remaining patents at issue in the Related Litigation, render the PTAB the most judicially efficient forum for adjudicating all prior art invalidity issues.

PO's reliance on *Motorola Sols., Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19 at 3 (P.T.A.B. Mar. 28, 2025) is misplaced. *Motorola* is clearly distinguishable given that in the Related Litigation, Defendants have **not** proffered any invalidity contentions based on system prior art (which cannot be raised in an IPR even if they did).

PO's Request also demonstrates the strength of Petitioners' unpatentability challenges because the Request misapprehends and overlooks arguments in the Petition and supporting evidence. As discussed in greater detail below, PO ignores the express disclosure of Lee (EX1006) showing the transmission and receipt of configuration information including start subframe information via higher layer signaling. PO relies on an improper definition of "start subframe" in attempting to distinguish the subframe index values shown in Figure 9 of Lee from the subframe start information required by the claim. PO also inaccurately accuses the Petition of relying on impermissible hindsight. To the contrary, Petitioner's obviousness grounds point out explicit teachings in the references that demonstrate reasons for the proposed combinations.

This Opposition demonstrates that a proper analysis of the *Fintiv* factors,

particularly in view of Petitioners' *Sotera* stipulation and the strength of the Grounds 1-3 set forth in the Petition, dictates that discretionary denial is not warranted and that PO's Request should be denied in the interest of efficiency, fairness, and patent quality.

Accordingly, Petitioners hereby respectfully request that the Board deny PO's Request and grant the Petition to institute *inter partes* review of the '644 Patent.

II. STIPULATION

Petitioners hereby present a *Sotera* stipulation. Petitioners stipulate that if the Board grants the Petition and institutes an *inter partes* review, Petitioners will not pursue in the Related Litigation the specific grounds asserted in the Petition, or any other ground that could have been reasonably raised in an IPR. *See Sotera Wireless, Inc. v. Masimo Corporation*, IPR2020-01019, Paper 12 (P.T.A.B. Dec. 1, 2020) (precedential).

III. ANALYSIS

A. Factor 1 – Likelihood of Stay

No party has requested a stay, and the District Court has not indicated whether a stay is likely to be granted. The fact that other IPR petitions – IPR2025-00036 and IPR2025-00037 – have been denied by the Board (Request, at ___) is irrelevant as to this Petition because those other petitions address different patents. Notably, the Request does not cite to any support for the principle that the *Fintiv* analysis for the

‘644 patent depends on, or can even consider, discretionary denials of institution for other unrelated patents. Therefore, this factor is neutral.

B. Factors 2 and 5 – Timing of Trial and Overlap of Parties

Petitioners comprise multiple entities with different trial dates – or no trial date at all. 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 LLC 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 Related Litigation. *IQE PLC v. Cornell Rsch. Found. Inc.*, IPR2024-00609, Paper 9 at 12-13 (P.T.A.B. Sept. 13, 2024).

As for the other Petitioners, only one of the 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 Computer Inc.*, No. 2:22-CV-00460 (E.D. Tex. Jan. 22, 2025) (802 days to trial); *Touchstream Techs., Inc. v. Charter Communications Inc.*, No. 2:23-CV-00059 (E.D. Tex. Feb. 17, 2025) (746 days to trial). Indeed, trial dates in this district court are often delayed multiple times. *See, e.g., Multimedia Techs.*

PTE Ltd. v. LG Elecs. Inc., et al., 2:22-cv-00494-JRG-RSP, Dkt. 273 (E.D. Tex. Mar. 18, 2025) (noting that “[t]his case has been set for trial five times: November 18, 2024, January 27, 2025, February 7, 2025, March 3, 2025, and March 17, 2025. The parties have also been notified that other cases are preferentially set ahead of them for the April 7, 2025 and April 21, 2025 trial settings.”).

Further, it is unlikely for the cases to be scheduled immediately one after the other given the number of patents and claims at issue. Post-trial motions and other factors, including the Court’s busy docket, will prevent serial scheduling of the trials back-to-back. Consequently, while one case *may* go to trial before a final written decision issues, it is unlikely that all cases will go to trial before such time. Moreover, serial district court trials will require multiple, judicially-inefficient prior art invalidity proceedings of the ’644 patent, which will be avoided by institution of this single PTAB proceeding.

In *Google LLC v. Mullen Industries LLC*, IPR2025-00019, Paper 14 (PTAB May 12, 2025), the Board granted institution even though that district court trial was scheduled to occur “more than six months” before the projected final written decision date and “the defendant’s invalidity contentions include system prior art.” In *Mullen*, while parties had yet to conduct Markman in the parallel district litigation, prior art invalidity based on system art was still at issue, unlike the Related Litigation in the present case. Thus, in light of this fact and the *Sotera* stipulation presented

herein, there will not be any overlap or investment whatsoever concerning prior art invalidity between the PTAB and district court if trial is instituted at the PTAB. The facts here are at least as favorable towards institution as those in *Mullen*.

Accordingly, 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 a single proceeding at the P.T.A.B.

C. Factor 3 – Investment in Parallel Proceedings

Here again, Petitioner Google is not a party in the District Court proceedings and, thus, will not be a party to the validity challenge of the '644 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.¹ *Motorola* at 3. In contrast to the facts of *Motorola*, the parties here had invested little energy into invalidity challenges of the '644 Patent claims and

¹ Petitioners reserve the right to challenge the March 26, 2025 Interim Processes for PTAB Workload Management at least because it is legally invalid as (1) exceeding the Director's authority, (2) arbitrary and capricious, and (3) adopted without notice-and-comment rulemaking.

Defendants had and have *not* proffered any invalidity contentions based on system prior art (which cannot be raised in an IPR even if they did). *Id.*, 4. At the time of filing the POPR, the parties had just completed fact discovery and served opening expert reports, and a claim construction order had not issued. (The Court has still not issued a claim construction order.) 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.

PO argues that “Patent Owner served infringement contentions on Petitioners in district court on March 18, 2024...[y]et, Petitioners delayed until December 31, 2024—over nine months after receiving infringement contentions—to file its Petition challenging the ’644 patent.” Request, 13-14. Petitioners did not delay filing its petition. To the contrary, Petitioners promptly worked together, including with non-party Petitioner Google, to prepare and file this petition in an effort to advance judicial efficiency by avoiding multiple petitions and thereby conserving Board resources. Further, on *April 10, 2025* – four days prior to the close of fact discovery, PO filed a motion for leave to amend its infringement allegations to include a number of devices that were not previously accused. EX1025, EX1026. While briefing of the issue has concluded, no order has been entered and the late identification of these accused products raises the possibility of a continuance of the

litigation.

Accordingly, this factor favors institution or, at the very least, is neutral.

D. Factor 4 – 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). As noted above, PO has recently moved to dismiss four of the patents at issue in the Related Litigation, along with numerous claims of the remaining patents. This fact, coupled with the absence of system prior art contentions and the planned submission of *Sotera* stipulations with respect to all remaining patents at issue in the Related Litigation, render the PTAB the most judicially efficient forum for adjudicating all prior art invalidity issues. Therefore, this factor favors institution.

E. Factor 6 – Other Factors

PO's arguments regarding the timing of the multiple petitions challenging patents unrelated to the '644 patent must be rejected. The Board should look no

further than the present Petition for purposes of weighing the *Fintiv* factors.

The Petition presents compelling evidence of invalidity. PO challenges the Petition's analysis of the claimed step of receiving configuration information including information on a start subframe through higher layer signaling. As detailed below, the Lee reference (EX1006) teaches this element, and at minimum, renders this element obvious in view of the express teachings of You (EX1007) and Zhang (EX1016).

1. Lee Discloses or Renders Obvious Configuration Information Including a Start Subframe Through Higher Layer Signaling

Element [1.1] of claim 1 requires “receiving configuration information relating to the plurality of subframes through higher layer signaling.” Element [1.4] specifies that this “configuration information” includes “information on a start subframe of the plurality of subframes.”

The Petition explains that Lee discloses configuration information including a “bitmap.” Pet., 22 (citing EX1006 at ¶[0111]). PO does not appear to dispute that this bitmap is configuration information relating to a plurality of subframes, or that it is transmitted/received via higher layer signaling. Nor can it. As the Petition makes clear, Lee's bitmap is configuration information at least because it contains information indicating how subframes in a window are configured, including

“window size ... and/or the subset of subframes for TTI bundling.” *Id.* Likewise, the Petition explains that Lee’s bitmap is “informed via higher layer signaling.” *Id.*

PO is incorrect in its contention that Lee’s bitmap does not include starting subframe information. As explained in the Petition, Lee depicts an example of a bitmap in Figure 9 that includes information on a start subframe of the plurality of subframes. Pet., 26-27 (citing EX1006 at Figure 9). The petition includes an annotation of Lee Figure 9 showing the information on the start subframe:

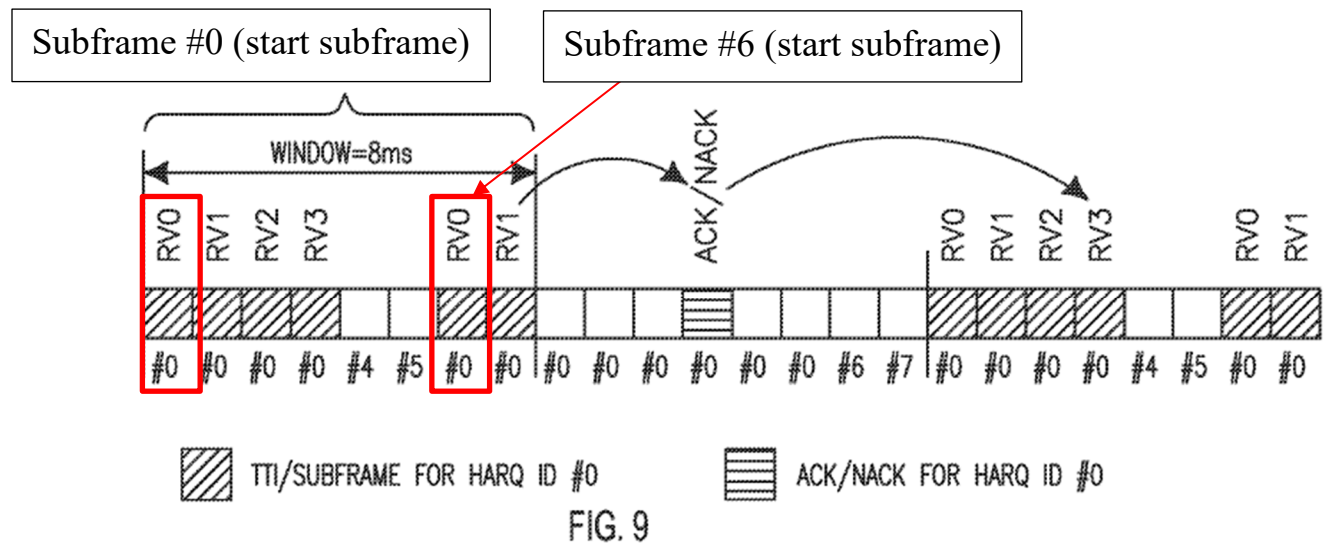


Fig. 9 of Lee (Annotated)

Pet., 27. As shown above, the bitmap includes information on the subset of subframes that are used for TTI bundling—including the start subframes for each subset, designated RV0 in the example above. *Id.* By specifically identifying the start of each subset, Lee’s bitmap includes information on the start of the plurality of subframes. *Id.* (citing EX1006, ¶¶[0111]-[0122]).

Figure 9 of the '644 Patent corresponds to Lee's Figure 9, showing repeatedly allocating downlink control channels (Physical Downlink Control Channels, "PDCCHs") in a plurality of subframes, including a "starting subframe". Pet., 12. Figure 9 shows repeated subframes including subframes "SF#1" to "SF#4", where "SF#1 is set as a start subframe, through higher layer signaling". EX1001, 12:33-34. Pet., 27-28:

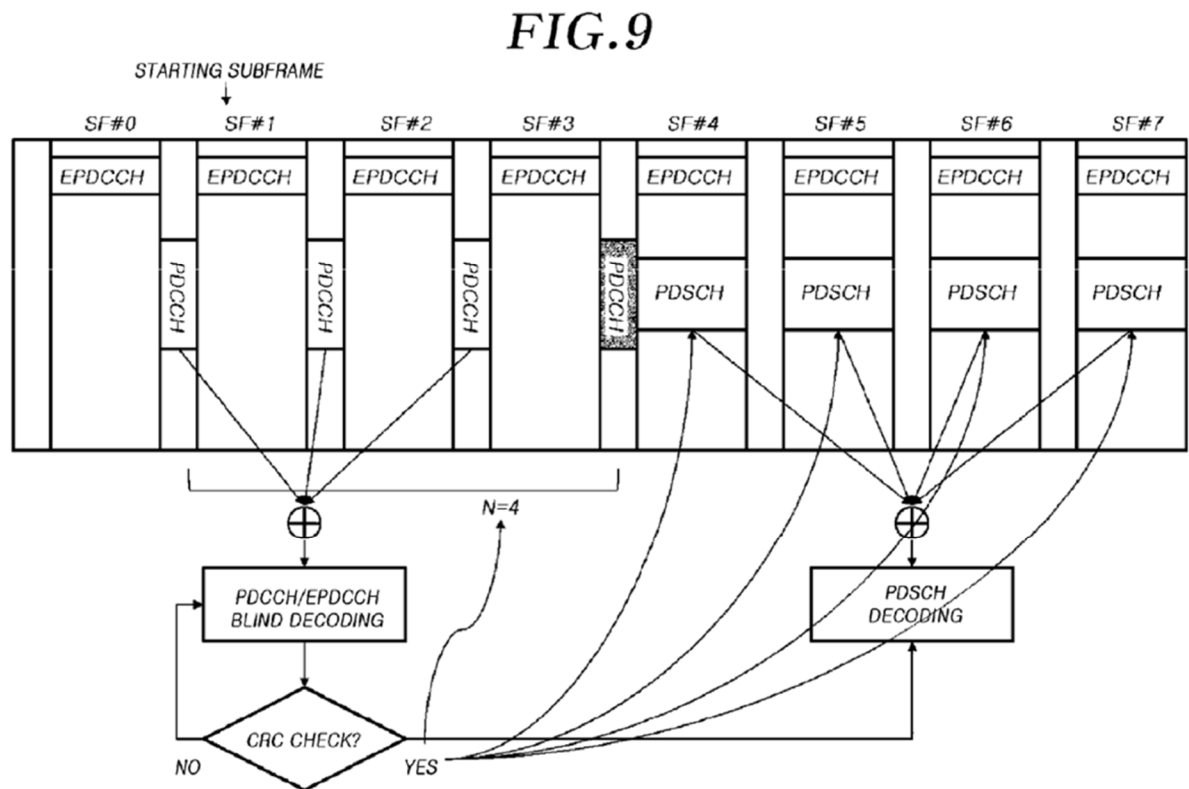


Fig. 9 of '644 Patent

Figure 9 of Lee similarly shows repeated subframes as six repeated subframes of the first eight subframes (each labeled "#0" to illustrate repetition) in the initial window. Pet., 26. Lee's Figure 9 clearly shows two subframes (annotated in Figure

9 of Lee) both labeled as “#0” in the first window that are start subframes, identical to “SF#1” in Figure 9 of the ’644 Patent. *Id.* Lee’s two subframes are set as start subframes through higher layer signaling, as disclosed by Lee and presented in the Petition. Pet., 26-28.

PO argues that “Lee’s bitmap in Fig. 9 only indicates the ‘subset of subframes for TTI bundling’ within the window 905.” Request, 29. PO is incorrect. Lee is clear that the bitmap provides information on a start subframe because it informs a UE of a start subframe within any subset of subframes (as shown in Figure 9 of Lee), while the information on a number of subframes transmitted via DCI informs the UE how many subframes are in a bundle with repeated information. Pet., 26-28. PO’s attempt to obfuscate clear teachings of Lee’s Figure 9 is wrong and irrelevant. Request, 29-30.

Though evident from Figure 9, PO denies that Lee’s bitmap contains the required start subframe information on the ground that “the number of repeated subframes in a TTI bundle” would also be needed to “know” the number of start points. PO errs on multiple grounds.

First, PO’s arguments improperly focus on a separate DCI transmission in Lee, and ignore Lee’s actual disclosure regarding the bitmap that corresponds to the claimed configuration information. Whether or not “the number of repeated subframes in a TTI bundle” is separately transmitted in Lee is not relevant to the

question of whether Lee's bitmap, illustrated in Figure 9, contains "information on a start subframe." Lee plainly states that "the subset of subframes for TTI bundling may be indicated by using a bitmap within the window, and the bitmap may be informed via higher layer signaling." Pet., 26 (citing EX1006, ¶[0111]). Because Lee's bitmap contains at least some start subframe information, namely, an indication of the start subframe index in each TTI bundling subset, then Lee's bitmap satisfies claim element [1.4], regardless of whether Lee separately transmits "the number of repeated subframes in a TTI bundle." As discussed in the Petition, a POSITA reading Lee would have been motivated to separately transmit the number of the plurality of subframes via DCI in order to (1) reduce the amount of data transmitted by configuration information, (2) further enhance coverage where throughput of configuration information may be reduced, and (3) improve the chances that information is more likely to be received. *See* Pet., 39-40.

Second, PO apparently relies on a meaning of "start subframe" that contradicts that set forth in the '644 Patent. As explained in the Petition, the '644 Patent discloses that information on a start subframe is "a value of a particular subframe index (or subframe number) indicating a start point" and "the information indicating the subframe index [*e.g., of a start subframe*] may be a bitmap." Pet., 26-28 (citing EX1001, 10:2-22). Figure 9 of Lee depicts a diagram of an example of TTI bundling with bitmap indications, including values RV0 for start subframes.

Pet., 27. No more is required to show that Lee discloses “receiving configuration information relating to the plurality of subframes through higher layer signaling” including “information on a start subframe of the plurality of subframes.”

Third, PO does not substantively address Petitioner’s argument that this feature would have been obvious based on Lee. In Ground 2, the Petition confirms that “[a] POSITA would have been motivated in view of Lee to transmit the start of the subframe repetitions (e.g., a bitmap) via higher layer signaling in the configuration information ... so that the UE knows where/when to find the repeated (E)PDCCHs.” Pet., 39 (citing EX1006, ¶¶[0128]). PO contends without support that the cited portion of Lee does not support Petitioner’s argument. However, PO is mistaken, as the cited portion clearly explains that it was known to transmit information “through a higher layer.” See, EX1006, ¶¶[0111]-[0128] (“the bitmap may be informed via higher layer signaling.”); EX1010, ¶¶[0105]-[0122]. Thus, even if Lee’s bitmap did expressly include information on a start of subframes for the reasons above, the Petition sets forth a sufficient basis, not substantively rebutted by PO, to conclude that this element of claim 1 would have been obvious.

2. The Modification of Lee Based on You and Zhuang Does Not Rely on Impermissible Hindsight

PO does not appear to dispute that You and/or Zhuang disclose the claim elements [1.1] and [1.4] that it contends are absent from Lee. Instead, PO attacks Ground 3 on the incorrect premise that it is “based on impermissible hindsight.”

Ground 3 is not, however, based on impermissible hindsight, as it relies on explicit motivations in the references themselves.

For example, the Petition notes that “Lee recognizes a need for enhancing coverage of MTC UE devices....” Pet., 45 (citing EX1006, ¶¶[0003]-[0005]). You addresses this need directly by “describe[ing] a mechanism for enhancing coverage of MTC devices, for example, by repeatedly allocating downlink control channels (PDCCHs) in a plurality of subframes.” *Id.* (citing EX1007, ¶[0145]). Likewise, Zhuang discloses “coverage improvement and cost reduction for [] MTC devices in coverage hole scenario[s],” including “repetition of the physical channels to improve the coverage.” Pet., 46-47 (citing EX1016, 1:14-16). Inasmuch as each of the references explicitly recognizes the potential for subframe repetition to improve coverage for MTC devices, a POSITA would have recognized the motivation to combine their teachings at the time of the invention, without the benefit of hindsight.

PO admits that You discloses “us[ing] higher level signaling to convey starting subframe information,” but contends that the combination would not satisfy the claims because it would “obviate” Lee’s teaching of element [1.5]. PO errs by suggesting that a POSITA would have eliminated this feature of Lee. To the contrary, a POSITA would not have dispensed with such an important teaching of Lee. As explained in the Petition and above, Lee teaches a “new DCI format ... used to carry ‘indication bits; for dynamic configuration of a UE (e.g., WTRU) using dynamic

subframe bundling.” Pet., 58 (citing EX1006, ¶[0114]). By contrast, You does not disclose using dynamic subframe bundling and, thus, a POSITA would not have had any reason or motivation to jettison the new DCI format of Lee, as Lee teaches the new DCI format is compatible with conveying starting subframe information through higher layer signaling. *Id.* See EX1006, ¶¶[0111]-[0115]; EX1010, ¶¶[0105]-[0109]. Thus, rather than “redundantly transmit[ing] information” as PO argues, the new DCI format of Lee provides additional functionality which would not have been discarded in view of You’s teachings.

A POSITA would have readily recognized that the new DCI format disclosed in Lee would have benefited from combination with the detailed subframe bundling techniques for PDCCHs described in You, resulting in the transmission of information on a start subframe via higher layer signaling and the transmission of information on the number of subframes via DCI. Pet., 59. This combination is only further confirmed by Zhuang, which explicitly recognized that “it is important to have a method to determine the start subframe of the physical channels.” Pet., 47-48 (citing EX1016, 1:21-22). Notably, PO does not substantively address the teachings of Zhuang.

IV. CONCLUSION

For the foregoing reasons, the Director should deny PO's request for discretionary denial of institution.

Date: June 5, 2025

Respectfully submitted,

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APPENDIX A - LIST OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 9,894,644, issued on February 13, 2018 (“the ‘644 Patent”)
1006	PCT International Publication No. WO 2014/055878, published on April 10, 2014 (“Lee”)
1007	U.S. Patent Publication No. 2016/0353420, published on December 1, 2016 (“You”)
1010	U.S. Provisional Patent Application No. 61/863,223, filed August 7, 2013 (“Lee Priority Application”)
1016	PCT International Publication No. WO 2015/018075, filed August 9, 2013 and published on February 12, 2015 (“Zhuang”)
1025	<i>Pegasus Wireless v. Cellco Partnership d/b/a Verizon Wireless</i> , Case 2:23-cv-00640-JRG (EDTX), Dkt. No. 310-15, Exhibit M to Plaintiff Motion To Amend Infringement Contentions (April 17, 2025 redacted filing of April 10, 2025 sealed motion)
1026	<i>Pegasus Wireless v. Cellco Partnership d/b/a Verizon Wireless</i> , Case 2:23-cv-00640-JRG (EDTX), Dkt. No. 310-16, Exhibit N to Plaintiff Motion To Amend Infringement Contentions (April 17, 2025 redacted filing of April 10, 2025 sealed motion)

CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. §42.24

Pursuant to Acting Director Stewart's March 26, 2025 Memorandum on Interim Processes for PTAB Workload Management, the undersigned certifies that the foregoing Opposition to Patent Owner's Brief Requesting Discretionary Denial of Institution totals 3,616 words, excluding the parts which are exempted by 37 C.F.R. §42.24.

Date: June 5, 2025

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 5th day of June, 2025, a true and correct copy of the foregoing **PETITIONERS' OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL** is being served via electronic mail upon counsel for Patent Owner as follows:

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