

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

Case No. IPR2026-00271
Patent No. 9,491,564

**PETITIONER'S OPPOSITION TO PATENT OWNER'S
DISCRETIONARY DENIAL BRIEF**

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LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 9,491,564 (“the ’564 Patent”)
1002	Prosecution History of U.S. Patent No. 9,491,564 (“the ’564 FH”)
1003	Declaration and Curriculum Vitae of Patrick Traynor
1004	3GPP TS 23.140 v6.9.0 (2005-03); 3rd Generation Partnership Project; Technical Specification Group Terminals; Multimedia Messaging Service (MMS); Functional Description; Stage 2 (“TS-23.140”)
1005	U.S. Patent No. 8,195,961 (“Ogawa”)
1006	U.S. Patent App. Pub. No. 2008/0080458 (“Cole”)
1007	U.S. Patent App. Pub. No. 2009/0282256 (“Rakic”)
1008	PCT Pub. No. 2008/048075 (“Lee”)
1009	U.S. Patent No. 7,975,147 (“Qumei”)
1010	U.S. Patent No. 9,032,192 (“Frank”)
1011	Open Mobile Alliance; OMA-ERELD-MMS-v1_2-20030923-C, Enabler Release Definition for MMS Version 1.2,” available at https://www.openmobilealliance.org/release/MMS/V1_2-20030923-C/OMA-ERELD-MMS-V1_2-20030923-C.pdf
1012	“Open Mobile Alliance; Multimedia Messaging Service Architecture Overview” (MMSARCH) specification, available at https://www.openmobilealliance.org/release/MMS/V1_2-20030923-C/OMA-MMS-ARCH-V1_2-20030920-C.pdf
1013	The Secure Sockets Layer (“SSL”) Protocol, V. 3.0, available at https://web.archive.org/web/19970614041044/http://home.netscape.com/eng/ssl3/ssl-toc.html and https://web.archive.org/web/19970617034012/http://home.netscape.com/eng/ssl3/3-SPEC.HTM#1
1014	The Transport Layer Security (“TLS”) Protocol, V. 1.1, available at https://www.ietf.org/rfc/rfc4346.txt
1015	U.S. Patent App. Pub. No. 2003/0096625 (“Mi-Su Lee”)
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1019	U.S. Patent No. 7,082,615 (“Ellison”)
1020	3GPP TS-26.140 v6.2.0 (2005-03); 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Multimedia Messaging Service(MMS); Media formats and codecs
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1022	<i>Samsung Elecs. et al. v. Headwater Research LLC</i> , IPR2024-00341, Paper 28 (July 23, 2025)
1023	Stewart, C.M., Memorandum Re: PTAB Consideration of Prior Findings of Fact and Conclusions of Law (September 16, 2025), https://www.uspto.gov/sites/default/files/documents/Memo_re_prior_findings_of_fact_and_conclusions_of_law_9_16_25.pdf .
1024	Declaration of Friedhelm Rodermund
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1026	U.S. Patent App. Pub. No. 2005/0108571 (“Lu”)
1027	U.S. Patent App. Pub. No. 2005/0207379 (“Shen”)
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1040	U.S. Patent App. Pub. No. 2006/0077940 (“Ganji”)
1041	U.S. Patent App. Pub. No. 2005/0282531 (“Andreasson”)
1042	U.S. Patent App. Pub. No. 2003/0193967 (“Fenton”)
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1052	3GPP TS 25.322 v6.4.0 (2005-06); 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Radio Link Control (RLC) protocol specification; (“TS-25.322”)
1053	3GPP TS 25.323 v5.4.0 (2005-06); 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Packet Data Convergence Protocol (PDCP) specification; (“TS-25.323”)
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1058	U.S. Patent App. Pub. No. 2004/0258063 (“Raith”)
1059	U.S. Patent App. Pub. No. 2004/0111476 (“Trossen”)
1060	Prosecution History of U.S. Patent No. 9,232,403 (“the ’403 FH”)
1061	U.S. Patent App. Pub. No. 2007/0239898 (“Friend”)
1062	U.S. Patent No. 7,269,433 (“Vargas”)

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1064	<i>Samsung Elecs. v. Headwater Research LLC</i> , IPR2024-00010, Paper 2, Petition for <i>Inter Partes</i> Review (Nov. 17, 2023)
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1066	<i>Samsung Elecs. v. Headwater Research LLC</i> , IPR2024-00010, Paper 25, Joint Motion to Terminate (May 8, 2025)
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1071	U.S. Patent No. 8,406,733 (“the ’733 Patent”)
1072	U.S. Patent No. 9,615,192 (“the ’192 Patent”)
1073	<i>Amazon v. Headwater Research LLC</i> , IPR2026-00088, Paper 11, Notice of Decisions on Institution (April 6, 2026)
1074	Headwater IPR Search (PTACTS results)
1075	<i>Headwater Research LLC v. Google LLC</i> , NO. 7:25-cv-00231-DC-DTG, Western District of Texas, Dkt. 38, Google’s Motion to Transfer Venue
1076	Definition of USPC class 713, available at https://www.uspto.gov/web/patents/classification/uspc713/defs713.pdf
1077	<i>Google v. Headwater Research LLC</i> , IPR2024-00942, -943, Paper 20, Final Written Decision (Oct. 1, 2025)
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1085	<i>Amazon v. Headwater Research LLC</i> , IPR2026-00106, Paper 10, Notice of Decisions on Institution (Mar. 10, 2026)
1086	<i>Amazon v. Headwater Research LLC</i> , IPR2026-00088, Paper 10, Notice of Decisions on Institution (March 10, 2026)
1087	<i>Google v. Headwater Research LLC</i> , IPR2026-00203, Paper 10, Notice of Decisions on Institution (May 15, 2026)
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1090	<i>Amazon v. Headwater Research LLC</i> , IPR2026-00106, Paper 12, Notice of Decisions on Institution (April 28, 2026)
1091	March 11, 2026, Memorandum titled “Additional Discretionary Institution Considerations—U.S. Manufacturing and Small Business Use of AIA Proceedings.” See https://www.uspto.gov/sites/default/files/documents/Additional_Discretionary_Institution_Considerations_US_Manufacturing_and_Small_Business_Use_of_AIA_Proceedings.pdf .
1092	<i>Headwater Research LLC v. Amazon Services LLC</i> , NO. 2-26-cv-00304-JRG-RSP, Eastern District of Texas, Dkt. 1, Complaint
1093	<i>Headwater Research LLC v. Amazon Services LLC</i> , NO. 2-26-cv-00304-JRG-RSP, Eastern District of Texas, Dkt. 20, Order Setting Scheduling Conference
1094	July 29, 2015 Information Disclosure Statement, Prosecution History of U.S. Patent App. No. 14/736,134
1095	U.S. Patent No. 10,321,320 (“the ’320 Patent”)
1096	<i>Google v. Headwater Research LLC</i> , IPR2026-00203, Paper 8, Petitioner’s Opposition to Patent Owner’s Discretionary Denial Brief (April 27, 2026)

1097	<i>Headwater Research LLC v. AT&T Services, Inc. et al.</i> , NO. 2:25-cv-00711-JRG-RSP, Eastern District of Texas, Dkt. 7, Notice of Voluntary Dismissal
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I. INTRODUCTION

The Board should reach the merits of this IPR against U.S. Pat. No. 9,491,564 (“the ’564 Patent,” EX-1001). In a prior proceeding, IPR2024-00341, the Board cancelled substantially similar claims from the related ’733 Patent. This Petition (Paper 2, “Pet.”) relies on the same disclosures from the same primary reference—TS-23.140 (EX-1004)—and cites for support relevant holdings regarding TS-23.140 from the Board’s prior adjudication. *E.g.*, Pet., 1, 11, 14, 16, 20-21, 24-26, 28-29, 45-46, 64, 72. TS-23.140 has also served as the basis for other already-instituted IPRs—IPR2024-00010, IPR2026-00088, IPR2026-00106—all challenging similar claims from related patents sharing the same specification. EX-1064; EX-1068; EX-1080. The Director has repeatedly referred similarly-situated IPR petitions relying on TS-23.140 against substantially similar claims. EX-1085; EX-1086; EX-1087. This Petition should be treated no differently, especially given the lack of any parallel litigation between the parties involving the ’564 Patent.

II. THIS IPR IS AN APPROPRIATE USE OF OFFICE RESOURCES

A. PO’s Disingenuous Stipulation Argument

PO devotes half its brief to argue that Petitioner used “gamesmanship” to avoid estoppel and “reserve for itself the right to duplicate” invalidity arguments in “district court proceedings” because it has not yet filed “an appropriate stipulation.” Paper 6, at 1-7. This is *very* disingenuous. Petitioner has had no opportunity to file a stipulation *because of PO*. For ten months, PO has actively opposed inclusion of the

'564 Patent in any district court proceeding between the parties—first by moving to dismiss Petitioner's declaratory judgment ("DJ") action of noninfringement of the '564 Patent (where invalidity was never pled), and now by opposing Petitioner's motion for leave to amend to add the '564 Patent to the parties' pending litigation. EX-1083, at 2-3, 5, 8.

Just as in IPR2026-00203, if an opportunity to file such a stipulation ever arises (over PO's opposition), Petitioner intends to stipulate that if this IPR is instituted, Petitioner will not pursue in parallel litigation an invalidity defense based on any ground that was raised or reasonably could have been raised in this IPR with respect to the '564 Patent. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12, at 18-19 (PTAB Dec. 1, 2020) (precedential as to §II.A); EX-1096, at 19-20. PO's suggestion that *more* should somehow be required in this case—e.g., a *preemptive* stipulation, absent any litigation between the parties involving the '564 Patent, that Petitioner "will not pursue" *any* "claims of invalidity" "before the district court" at all (Paper 6, at 5-6)—should be rejected. Requiring that would circumvent "what Congress had in mind when it created the IPR process" (*id.*, at 7): consideration of unpatentability "on the basis of prior art consisting of patents or printed publications" (35 U.S.C. § 311(b)), instead of "prior art device[s]" (Paper 6, at 6). And since any litigation involving the '564 Patent would end well after an FWD in this IPR, 35 U.S.C. § 315(e)(2)'s estoppel would prevent any duplication.

B. This IPR Will Allow Correction of Material Examiner Errors During Prosecution, Overriding Any PO Settled Expectations

The '564 Patent's prosecution history confirms there were multiple material errors in allowing the challenged claims. Prosecution took *less than two months*. EX-1002, at 1-10, 535-538. The Examiner failed to locate and apply TS-23.140, a description of the Multimedia Messaging Service ("MMS") published by 3GPP. This error was material, as confirmed by the Board in IPR2024-00341 (EX-1022, FWD),¹ IPR2024-00010 (EX-1065, ID),² IPR2026-00088 (EX-1073, ID),³ and IPR2026-00106 (EX-1090, ID),⁴ which found (or found reasonably likely) that TS-23.140 teaches limitations substantially similar to those in '564 Patent claim 1. The Examiner also failed to locate and apply Rakic, which was material error because the MMS-Rakic combination renders most of the challenged claims obvious.

¹ Petitioner and Samsung filed IPR2024-00341 against the '733 Patent. EX-1038. The Board instituted and then cancelled all challenged claims. EX-1063; EX-1022.

² Samsung filed IPR2024-00010 against the '192 Patent. EX-1064. The Board instituted IPR (EX-1065) but the parties settled before FWD. EX-1066; EX-1067.

³ Amazon filed IPR2026-00088, challenging the '192 Patent, which was referred over PO's discretionary denial arguments and instituted. EX-1086; EX-1073.

⁴ Amazon filed IPR2026-00106, challenging the '320 Patent, which was referred over PO's discretionary denial arguments and instituted. EX-1085; EX-1090.

1. The Examiner Failed to Locate and Apply TS-23.140

MPEP § 904.02 requires a thorough search for non-patent literature (NPL)—especially in high-tech, active fields, “where patent documents may seriously lag invention and, consequently, represent a reference source of limited value.” Examiners are also presumed to be “persons of scientific competence in the fields in which they work” who are “familiar from their work with the level of skill in the art.” MPEP § 2141 (quotation marks omitted). Despite these duties, there is no evidence the Examiner searched for any NPL at all, much less the 3GPP specifications. EX-1002, at 670 (searching patent classification categories).

A reasonable search of NPL as required would have uncovered 3GPP publications⁵ describing conventional wireless messaging systems and located TS-23.140. The '564 Patent is classified in CPC H04W (wireless communication networks) (EX-1001, item (52); EX-1069), its specification discusses 3G/GSM cellular networks (among others) (EX-1001, 12:50-13:13), and the claims are generally directed to a mobile device that communicates via a wireless modem with a network side of a system for transmitting messages. EX-1001, cl. 1. Standardized

⁵ PO submitted two *other* 3GPP specifications in an IDS. EX-1002, at 409. Despite submitting these and many hundreds of other references during prosecution, the Applicant did not submit TS-23.140. EX-1002, at 378-513, 671-680.

cellular messaging services are squarely related to the claimed subject matter, and 3GPP specifications should have been considered because they are published by the “world’s leading organization for developing and maintaining cellular telecommunications standards.” EX-1024, ¶27.

Further, the 3GPP 23-series relates to 3G/GSM systems described in the ’564 Patent. *E.g.*, EX-1001, 12:50-13:13. Additionally, TS-23.140 provides a description of MMS—a message storage/delivery service that, as explained further *infra* § II.B.3, the Office has determined to be relevant to the unpatentability of substantially similar claims. MMS was a well-known messaging service, and the TS-23.140 specification describing it was publicly accessible and would not have been difficult to find either on the 3GPP website or through Internet searches. EX-1024, ¶33, ¶¶44-70; EX-1070, at 2 (2016 “MMS Architecture” webpage mentioning TS-23.140). Thus, a reasonable Examiner search would have located TS-23.140.

2. The Examiner Also Failed to Locate and Apply Rakic

A reasonable search would also have located Rakic. The MPEP states that “[e]very... class/subclass of the U.S. Patent Classification... pertinent to each type of invention claimed should be included” in a search. MPEP § 904.02(a). Rakic is in USPC class 713/176, which relates to “[a]uthentication by digital signature,” “wherein a data object is cryptographically processed to produce a unique identifier which subsequently verifies the data object.” Rakic, item (52); EX-1076, at 12. This

field is “pertinent” to the claims of the ’564 Patent, which include limitations related to, e.g., “providing secure communication” by “allowing access... only for software components identified by the access authorization information,” “wherein the access authorization information” may “comprise[] a signature.” *See, e.g., Pet.*, 29-32, 47. Neither Class 713 nor Subclass 713/176 was included in the Examiner’s list of USPC classes. *See* EX-1002, at 670.

3. The Board’s Prior Adjudications Confirm that the Examiner’s Errors Were Material

The Board’s prior adjudications confirm that the Examiner’s errors in failing to locate TS-23.140 and Rakic were material. The Examiner allowed independent claim 1 without issuing an Office Action, stating only that the art did “not disclose Applicant’s inventive claim language.” EX-1002, at 536. But the determinations in IPR2024-00341 (at FWD), IPR2024-00010 (at institution), IPR2026-00088 (at institution), and IPR2026-00106 (at institution) show that TS-23.140 and Rakic (both of which Examiner failed to locate) disclose substantially similar limitations.

’564 Patent Claim 1 recites a “mobile end-user device” ([1PRE]) with a “device link agent” ([1B1]) that (i) securely receives messages from “network functions” ([1D2]) that are routed through a “message link server” ([1D1]), and (ii) delivers them to “components” ([1E]) on the device over an “inter-process software communication bus providing secure communication” ([1B1]). EX-1001, cl. 1. These limitations are materially similar to limitations in ’733 Patent claim 1, which

recites an “end-user device” with a “service control device link agent” performing materially similar functions to the ’564 Patent’s “device link agent”—e.g., securely receiving messages from “a plurality of servers” (encompassed by the ’564 Patent’s “network functions”) that are routed through a “service control server link element” (encompassed by the ’564 Patent’s “message link server”), and delivering messages to application-level “device agents” (encompassed by the ’564 Patent’s “components”) over an “agent communication bus” (encompassed by the ’564 Patent’s “inter-process software communication bus”). EX-1071, cl. 1.

In IPR2024-00341 (challenging the ’733 Patent), the Board determined that TS-23.140 discloses or renders obvious the vast majority of limitations in the challenged claims. EX-1022, at 15-33, 36, 37-40 (discussing TS-23.140’s disclosure of the majority of the limitations of claim 1), 40-42, 44-49 (discussing TS-23.140’s disclosures for the modem, SSL/TLS, and bus), 50-51 (discussing the other challenged claims); *see also* EX-1038. The Board thus determined that TS-23.140 taught limitations materially similar to at least the ’564 Patent’s “message link server,” “network functions,” “components,” “mobile end-user device,” “device link agent,” and “inter-process software communication bus” limitations.

’564 Patent claim 1’s limitations are also materially similar to limitations of claims in the ’192 Patent—often using identical language. ’192 Patent claim 1 recites a “message link server” with components performing materially similar functions as

the '564 Patent's "message link server"—e.g., securely delivering messages from "network elements" (encompassed by the '564 Patent's "network functions") to "components" (as in the '564 Patent) on a "wireless end-user device" (encompassed by the '564 Patent's "mobile end-user device") via a "device link agent" on that device (as in the '564 Patent). EX-1072, cl. 1. Claim 8 of the '192 Patent adds the requirement that "a secure server... provide secure authorization signatures to the... end-user device[that] indicat[e] the authorized software components that are allowed to receive data from secure... messages"—which is encompassed by '564 Patent claim 1's requirement that the "mobile end-user device" "receiv[e] access authorization information from a secure server, and" "for software components identified by the access authorization information, route messages... to the given software component," "wherein the access authorization information" may "comprise[] a signature." EX-1072, cl. 8; EX-1001, cls. 1-2.

In IPR2024-00010 and IPR2026-00088, Samsung and Amazon respectively challenged claim 1 of the '192 Patent based on TS-23.140 and claim 8 based on TS-23.140 combined with Rakic. The Board instituted both IPRs. EX-1065, at 11-27; EX-1073. Thus, the Board determined there was a reasonable likelihood that TS-23.140 and Rakic taught limitations materially similar to at least the '564 Patent's "message link server," "network functions," "components," "mobile end-user device," "device link agent," "receiv[e] access authorization information from a

secure server” that “comprises a signature,” and “route messages” “for software components identified by the access authorization information” limitations.

’564 Patent claim 1 is *also* materially similar to claim 1 of the ’320 Patent, recently challenged by Amazon in IPR2026-00106 using TS-23.140. *Compare* EX-1001, claim 1 *with* EX-1095, claim 1. That IPR likewise instituted. EX-1090.

Taken together, the Board’s determinations in IPR2024-00341, IPR2024-00010, IPR2026-00088, and IPR2026-00106 confirm that TS-23.140 and/or Rakic are material to the patentability of the ’564 Patent claims. The Examiner’s failure to locate and apply TS-23.140 and Rakic were material errors during prosecution of the ’564 Patent, which this Petition will allow the Office to correct.

PO cannot avoid materiality through its conclusory assertion that TS-23.140 and Rakic are cumulative of the art already before the Examiner. Paper 6, at 9. Even though many hundreds of references were submitted during prosecution (*see supra* n.5), PO does not identify *even one* that teaches what TS-23.140 and Rakic teach.

Moreover, the existence of material errors overcomes any settled expectations PO may have had based on the ’564 Patent’s age. *See, e.g., Anthony Inc. v. Controltec, LLC*, IPR2025-00559, Paper 12, at 2 (July 16, 2025) (referring based on material error even though challenged patents were in force several years); *Skullcandy, Inc. v. Earin AB*, IPR2025-00690, Paper 9, at 2 (July 31, 2025) (referring based on material error despite “settled expectations”); *Yealink (USA) Network Tech.*

Co. v. Barco N.V., IPR2025-00491, Paper 18, at 2-3 (June 25, 2025) (referring where claim referred to services “well known in the art”); *Microsoft Corp. v. Partec Cluster Competence Ctr. GmbH*, IPR2025-00318, Paper 9, at 2-3 (June 12, 2025) (referring and finding material error to overlook teachings of cited reference combined with teachings of references not previously presented).⁶

C. Petitioner’s Expectations Outweigh Any PO Settled Expectations

Even if the Office determines there was no material error during prosecution, Petitioner’s expectations outweigh any PO settled expectations. Petitioner Google had the expectations that (1) the ’564 Patent would not be asserted against its products/services; and (2) even if it was asserted, that Petitioner would be able to

⁶ While material error decisions often focus on art that was before the Examiner, here the Examiner’s material error was failing to locate and apply TS-23.140 and Rakic in the first place (similar to the failures in *Yealink* and *Partec*). The Office should assess material error based on the obviousness legal standard—*i.e.*, from the perspective of a POSITA presumed aware of all pertinent prior art. *Standard Oil v. Am. Cyanamid*, 774 F.2d 448, 454 (Fed. Cir. 1985) (obviousness is “determined entirely with reference” to a hypothetical POSITA); *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986) (a POSITA “is presumed to be aware of all the pertinent prior art.”).

challenge it based on references the Office considered for related patents in IPR2024-00341, IPR2024-00010, IPR2026-00088, and IPR2026-00106.

1. Petitioner Had No Expectation that PO Would Target Petitioner’s Customers Using the ’564 Patent

PO appears to have first asserted the ’564 Patent in July 2025, eight-and-a-half years after its listed issue date, against Petitioner’s customers Verizon, T-Mobile, and AT&T. EX-1088. PO apparently never previously asserted the ’564 Patent against *anyone else*. *Id.* There was no basis for Petitioner to expect that it or its customers would be sued on a never-before-asserted, eight-plus-year-old patent.⁷ After Google became aware of PO’s assertion, Google diligently defended itself and its customers by filing an action for DJ of noninfringement (September 2025) and

⁷ PO suggests Petitioner should have been aware of the ’564 Patent since 2018 because an ancestor application that the ’564 Patent “ultimately continues from” was listed as a “Reference[] Cited” in one of Petitioner’s patents. Paper 6, at 8. The ancestor was listed in a 100-plus-reference IDS filed in June 2015. EX-1094, at 2. The ’564 Patent’s application *had not even been filed* in June 2015. EX-1001, (22). By the time PO first asserted the ’564 Patent—over ten years after Google’s IDS—PO had filed hundreds of applications claiming priority to the ancestor. It simply is not credible to assert “Google knew (or should have known)” specifically “of the ’564 patent” based on an IDS filed over a year before the ’564 Patent was even filed.

filing this IPR (March 2026). *See* Pet., xi, 1.

2. PO Has No Settled Expectations of Validity

Even if PO were able to explain how its near-decade delay did not create settled expectations *for Petitioner* instead of PO, the Board’s adjudications confirming that substantially similar claims of relatives of the ’564 Patent are unpatentable (or reasonably likely to be found unpatentable) has certainly unsettled any expectations PO claims to have had regarding the ’564 Patent.

As discussed in § II.B.3, claim 1 of the ’564 Patent is substantially similar to claim 1 of the ’733 Patent (challenged in IPR2024-00341), and claims 1 and 8 of the ’192 Patent (challenged in IPR2024-00010). PO cannot plausibly assert that it had settled expectations in the validity of the ’564 Patent, since the Board had already determined in IPR2024-00341 and IPR2024-00010—in 2024, well *before* PO ever asserted the ’564 Patent—that there was a reasonable likelihood that substantially similar claims issuing from the same specification were unpatentable over TS-23.140. EX-1063; EX-1065. These institutions were not isolated—before PO asserted the ’564 Patent, the Board had instituted at least eighteen petitions⁸ challenging PO’s related patents. EX-1074.

⁸ PO has avoided FWDs for most of these petitions by—as it did in IPR2024-00010—settling fourteen of the IPRs before an FWD issued. EX-1074.

Further, shortly after PO first asserted the '564 Patent (in July 2025), the Board issued the IPR2024-00341 FWD (relying heavily on TS-23.140, *see* EX-1022; *supra* § II.B.3) and two other FWDs cancelling claims of PO's related patents (EX-1077; EX-1078⁹). Moreover, relying on TS-23.140, the Board also instituted IPR in IPR2026-00088 and IPR2026-00106 against PO's related '192 and '320 Patents, and declined to discretionarily deny IPR in IPR2026-00203 against PO's related '403 Patent. EX-1073; EX-1090; EX-1087. These decisions demonstrate that PO has no settled expectations as to the validity of the '564 Patent, especially over TS-23.140 (and Rakic). *See, e.g., Mercedes-Benz Grp. AG v. The Phelan Grp., LLC*, IPR2025-00413, Paper 13, at 2 (June 25, 2025) (referring petition where "claims of a related patent were recently found unpatentable").

PO alludes to "invest[ing] significant amounts of money in litigating its patent portfolio" (Paper 6, at 7) but does not explain how this led to any expectation about ***the '564 Patent*** given that most of this litigation was for other patents. PO also has not demonstrated "significant licensing success" (Paper 6, at 8), or that any licensing supports settled expectations. PO produced one license and provided no detail regarding any others. Paper 6, at 8 n.1. PO does not explain how this license to numerous patents plausibly led PO to expect that the '564 Patent, specifically, was

⁹ These FWDs cancelled claims of related U.S. Pat. Nos. 8,589,541 and 9,198,042.

valid over TS-23.140 and Rakic. Nor does PO explain how the license led PO to believe that Google would not challenge validity of the '564 Patent, especially after the Board: (1) cancelled (at Google's request) similar claims from the related '733 Patent (relying heavily on TS-23.140, *see supra* § II.B.3), (2) instituted IPR for similar claims from the '192 Patent (in view of TS-23.140 and Rakic), (3) instituted IPR for similar claims from the '320 Patent (in view of TS-23.140), and (4) declined to discretionarily deny IPR for similar claims from the '403 Patent (also in view of TS-23.140). EX-1022; EX-1073; EX-1090; EX-1087.

D. Given the Board's Prior Adjudications, This IPR Is an Efficient Use of the Office's Resources

This IPR is also an efficient use of Office resources. As discussed *supra* §§ II.B.3, II.C.2, the Office previously evaluated the same primary references and claims that collectively include materially similar limitations to '564 Patent claim 1 in IPR2024-00341 (relying on TS-23.140 to disclose the vast majority of the limitations) and IPR2024-00010 (relying on TS-23.140 and Rakic). And the Office will evaluate materially similar claims from the '192 and '320 Patents in view of TS-23.140 in IPR2026-00088 and IPR2026-00106, respectively. Thus, the Office can leverage work it has already done and will continue to do.

Moreover, considering the merits of this IPR and the co-pending IPR2026-00088 and IPR2026-00106 at the same time will lead to additional efficiencies, as the patents share specifications, have similar claims, and all three IPRs rely on TS-

23.140 to disclose the vast majority of the limitations. *See, e.g., Embody, Inc. v. Lifenet Health*, IPR2025-00248, -249, Paper 13, at 3 (June 26, 2025) (efficient to refer IPR of second patent related to first patent that was already referred for IPR).

IPR in this case will also be more efficient for the district courts and the parties. PO appears to be asserting twenty-five patents across thirty active cases. EX-1089. The Office is best positioned to address unpatentability of PO's patents consistently, and doing so would be an efficient use of resources given the Office's prior investment. *See* §§ II.B.3, II.C.2. Such facts weigh in favor of reaching this IPR's merits. *See, e.g., Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217 et al., Paper 9, at 2-3 (June 13, 2025) (informative).

III. PO'S MERITS ARGUMENT IGNORES THE PETITION

PO tellingly uses its request for discretionary denial to test-run attacks on the Petition's *merits* using attorney argument. PO's baseless merits attacks confirm that the Petition should ***not*** be discretionarily denied. First, PO faults the Petition because "no prior art is even alleged to disclose" [1B2]'s requirement that "access to the bus" is "only for software components identified by... access authorization information." Paper 6, at 12. "[I]nstead," according to PO, "the Petition simply asserts that it would be obvious to modify the prior art to arrive at this limitation." Paper 6, at 12. This attack makes no sense. Not only does PO ***ignore*** the cited disclosures and evidence that support the Petition's careful reasoning (Pet., at 29-32), PO bizarrely faults an

obviousness argument for not showing anticipation. “The test for obviousness is not whether... the claimed invention [is] expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to [a POSA].” *In re Keller*, 642 F.2d 413, 425 (C.C.P.A. 1981); *Boundary Sols. v. CoreLogic*, 711 F. App’x 627, 631-32 (Fed. Cir. 2017).

Second, PO says that the Petition’s conclusions that (1) the MMS-Rakic combination allows “acesss [*sic*] to the bus” “only for software components identified by the access authorization information,” and (2) “routes the message to the destination application... only if the signature... is valid,” “are supported *only* by” Paragraphs 120-121 of Dr. Traynor’s declaration. Paper 6, at 12-13 (PO’s emphasis). This is just false. The Petition provided extensive analysis and evidentiary support for its argument regarding this portion of [1B2], with citations to TS-23.140 and Rakic. Pet., at 31-32 (citing Rakic, [0110]-[0112]; TS-23.140, 54-56). That discussion expressly referenced the Petition’s careful explanation of how the MMS-Rakic combination uses Rakic’s message validation techniques to prevent communication with unauthorized software components. Pet., at 16-19 (citing Rakic, Abstract, [0041]-[0042], [0044]-[0045], [0048], [0050], [0059], [0070]-[0071]; TS-23.140, 19, 54-56); EX-1003, ¶¶ 78-86 (discussing same). The analysis of how MMS-Rakic limits “access to the bus” is *further* discussed in the Petition’s extensive analysis of [1F], showing that MMS-Rakic routes messages to an

application only if the signature is valid. Pet., at 46-47 (citing Rakic, [0112]-[0119], [0122], [0131]; TS-23.140, 54-56); EX-1003, ¶¶ 145-148 (discussing same). The Petition did not “only” rely on Paragraphs 120-121 of Dr. Traynor’s declaration.

Finally, PO says Petitioner “rewrites limitation” [1B2] to “require only ‘~~allowing access to~~ transmitting information across the bus only for when software components are identified by the access authorization information.”” Paper 6, at 13-14 (annotations in original). The quotation is not from the Petition, which never even uses the added phrase that PO concocts. Instead, the Petition properly demonstrated that limitation [1B2] *encompasses* a system that only routes messages over the bus for “software components identified by the access authorization information.” Pet., 31-32, 46-47. PO has no substantive response to Petitioner’s actual argument.

IV. UNLIKE PO, PETITIONER GOOGLE HAS MADE SIGNIFICANT INVESTMENTS IN THE UNITED STATES

Google is an American company that has made significant investments in U.S.-based infrastructure and product development. Google primarily designed and developed the Android functionalities that were accused in the litigations against Google’s customers in the United States. EX-1075, at 8-10. By contrast, PO makes no products. PO’s discretionary denial request provides no discussion of PO’s U.S. investments—there are none. The Director should find Google’s domestic product development supports institution, or should find this factor neutral. *See* EX-1091.

V. THE *FINTIV* FACTORS WEIGH HEAVILY AGAINST DENIAL

Despite asking the Office to discretionarily deny the Petition—and committing nearly half its brief to a “stipulation regarding the invalidity defenses [Google] may raise in any parallel district court action” (*e.g.*, Paper 6, at 2)—PO provides ***no analysis*** of the *Fintiv* factors. As PO admits, Petitioner “has not raised a claim for [DJ] of invalidity of the ’564 patent in any district court proceeding.” *Id.* at 5. And while PO has preserved its ability to assert the ’564 Patent against Google and its customers in the future (and opposed Google’s DJ efforts to defend itself against such attacks), “there is currently no pending Google district court proceeding in which any claims involving the ’564 patent are asserted.” *Id.* at 6; EX-1097.

PO’s lawsuits asserting the ’564 Patent against Google customers Verizon, T-Mobile, and AT&T (EX-1088) have all settled. And after PO’s litigation against Petitioner (asserting the ’192 and ’320 Patents) was transferred to the Northern District of California (EX-1081), Petitioner (1) voluntarily dismissed its action for DJ of noninfringement of the ’564 Patent¹⁰ and (2) filed a motion seeking to add that DJ claim as a counterclaim to the transferred case, ***which PO opposes***. EX-1082; EX-1083, at 5. The only current litigation involving the ’564 Patent was filed by PO against Amazon (not Petitioner) on April 16, 2026, and no case schedule or trial date has been set. EX-1092; EX-1093. The *Fintiv* factors weigh heavily against denial.

¹⁰ As PO admits, Petitioner never pled invalidity in this action. *See* Paper 6, at 5.

A. Factor 1: The Likelihood of a Stay Is Neutral

This factor is neutral, as it is uncertain where the parties' disputes regarding the '564 Patent's validity will be litigated, if at all. Absent "specific evidence," the Board "will not attempt to predict" how any parallel litigation between parties might proceed. *Sand Revolution II, LLC v. Cont'l Intermodal Grp.-Trucking LLC*, IPR2019-01393, Paper 24, at 7 (June 16, 2020) (informative).

B. Factor 2: The Lack of a Trial Date Weighs Against Denial

The expected FWD date if IPR is instituted is around October 1, 2027. No district court trial (between the parties or otherwise) considering validity of the '564 Patent could plausibly occur before then. In Petitioner's dismissed DJ action of noninfringement, the parties had proposed a December 6, 2027 trial date—over two months after the expected FWD. No new trial date has been set in PO's litigation against Petitioner (asserting the '192 and '320 Patents) since transfer—nor will one be scheduled until after the case management conference on July 28, 2026. EX-1084. The '564 Patent is not part of that case. Even if it were added (which PO *opposes*, EX-1082; EX-1083, at 5), trial is unlikely to occur before October 2027 (i.e., in the next fifteen months). EX-1079, at 66. Factor 2 weighs against denial.

C. Factor 3: The Investment in Parallel Litigation Weighs Against Denial Because No Litigation Has Proceeded Past Early Stages

In Petitioner's now-dismissed noninfringement DJ action, the parties only engaged in Rule 12 motion briefing. The parties exchanged no contentions or claim

constructions or discovery. This weighs against denial. *E.g.*, *Berkshire Hathaway Energy v. Birchtech Corp.*, IPR2025-00274 et al., Paper 23, at 2-3 (July 2, 2025).

D. Factor 4: The Lack of Overlap Between Issues in the Petition and Any Parallel Litigation Weighs Heavily Against Denial

As discussed *supra* § II.A, Petitioner intends to file a *Sotera* stipulation if an opportunity to file one arises (over PO's objections). *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12, at 18-19 (PTAB Dec. 1, 2020) (precedential as to §II.A). Factor 4 weighs against denial.

E. Factor 5: The Parties Factor Weighs Against Denial Because the FWD Is Likely to Precede Any Trial

As discussed *supra* § V.B, there is no trial date as no litigation between the parties involving the '564 Patent exists, and any trial that would potentially include the '564 Patent will occur after the expected FWD. Factor 5 weighs against denial. *BMW of N. Am., LLC v. Mich. Motor Techs. LLC*, IPR2023-01234, Paper 11, at 14-15 (Jan. 26, 2024) (collecting cases).

F. Factor 6: Other Circumstances Weigh Heavily Against Denial

The Board's prior adjudications, Google's expectations, and PO's lack of settled expectations all weigh heavily against denial and in favor of the Board efficiently using its resources (by leveraging its review of similar claims over TS-23.140 and Rakic) to find the challenged claims unpatentable. *Supra* §§ II-IV.

Date: July 1, 2026

/Anant Saraswat/

Anant Saraswat, Reg. No. 76,050

CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6 (E)(4)

I certify that on July 1, 2026, a copy of the foregoing document, including any exhibits filed therewith, is being served via electronic mail, as previously consented to by Patent Owner, upon the following:

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