UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

APEX BEAM TECHNOLOGIES LLC,

Patent Owner

Case IPR2025-00895
U.S. Patent No. 10,568,113

PETITIONER'S OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL

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I. INTRODUCTION

Petitioner Apple Inc. ("Apple") opposes Patent Owner Apex Beam Technologies LLC's ("ABT") Request for Discretionary Denial (Paper 8, "Request"). ABT's Request focuses largely on just two discretionary doctrines: (a) settled expectations, and (b) *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*"). But under all relevant considerations, denial of institution is simply inappropriate under either doctrine, and factors that were not addressed by ABT further demonstrate why *inter partes* review would constitute an efficient and otherwise appropriate use of Office resources.

Indeed, even if settled expectations and *Fintiv* considerations weighed in favor of discretionary denial (they do not), and even if other factors did not justify referral for merits consideration (they do), referral of the instant '113 petition would still be appropriate because (1) the reasons for opposing discretionary denial of the instant petition are nearly identical to reasons deemed sufficient to justify referral of seven petitions challenging patents commonly asserted in the same counterpart litigation, and (2) per *AMD*, referral of this petition with those other seven petitions will render an efficient use of Board resources to address patentability. *Advanced Micro Devices, Inc. v. Concurrent Ventures, LLC*, IPR2025-00478, Paper 10, at 3 (PTAB July 31, 2025) ("*AMD*") (given prior

institution of petitions challenging other patents asserted in the same co-pending litigation, referral of institution in this proceeding "is an efficient use of Board resources to address the challenged patent as well").

Institution and merits review of the '113 patent (one of 17 patents asserted in co-pending litigation[1] (collectively "Asserted Patents"))[2] would also lead to timely clarity on the scope and validity of rights purported to cover 5G-standard implementations—clarity that enables efficient planning and capital allocation by U.S. manufacturers and investors. Apple is one of these U.S. manufacturers and investors, having recently committed to a $100 billion U.S. investment through its American Manufacturing Program to build an end-to-end American silicon supply chain and to co-develop and manufacture cellular semiconductor components "crucial for 5G communications" with U.S. partners including Broadcom and GlobalFoundries. *See* APPLE-1148. Apple has committed nearly $600 billion to

[1] Sixteen of the 17 patents asserted in the Litigation have been challenged in IPRs by Apple. The sole unchallenged patent is U.S. Pat. No. 11,457,426.

[2] The '113 patent is related to seven patents amongst the Asserted Patents for which IPRs have been referred for merits review. *See* IPR2025-00896, Paper 10 (PTAB Sept. 3, 2025) (referring IPR2025-00896, IPR2025-00900, IPR2025-00901, IPR2025-00907, IPR2025-00909, IPR2025-00910, IPR2025-00911).

similar initiatives over four years. *Id*. If the Asserted Patents are found unpatentable, early resolution avoids wasteful parallel litigation. And, even if found not unpatentable, by engaging in this validity investigation, the Board will provide certainty and guidance that informs U.S. manufacturers and investors. Either way, substantive engagement by the Board helps to inform scaling of U.S. production. In short, referral for merits review advances efficiency and the public interest by reducing friction and enabling informed investment in American manufacturing tied to 5G technologies.

As to settled expectations, the '113 patent has been in force for only five years, given its issuance in 2020. With so little time since issuance, there can be no reasonable claim of settled expectations, let alone strong settled expectations. *See Yealink(USA) Network Technology Co. LTD., et al. v. Barco N.V.*, IPR2025-00491 ("*Yealink*"), Paper 18, at 3 (PTAB June 25, 2025) ("…the challenged patent issued recently, in **2020**.[3]); *see also Microsoft Corporation v. Edge Networking Systems, LLC*, IPR2025-00617, Paper 12 at 2 (PTAB July 31, 2025) ("*Microsoft*") (a challenged patent issued in **2020** has "not been in force for a significant period of time"). Indeed, accounting for the recent issue date, Apple's Petition is an "early challenge" that serves to promote "robust, predictable patent rights," which

[3] All emphasis has been added unless indicated otherwise.

"weigh[s] against discretionary denial." *Id*. In fact, Apple's early challenge is presented under the backdrop of more favorable timing than IPR2025-00385, where the proceeding was referred to the merits panel despite trial predating the projected Final Written Decision ("FWD") deadline by one month. *Zhuhai Cosmx Battery Co. LTD. v. NingDe Amperex Technology Limited*, IPR2025-00385, Paper 9, at 2-3 (PTAB July 2, 2025) ("*Zhuhai*") ("[a]lthough there may be some inefficiencies with two proceedings operating in parallel, the early challenges to the patents tip the balance against discretionary denial").

As to *Fintiv*, the trial in counterpart district court litigation[4] ("Litigation") is scheduled to occur only after the Board's deadline to issue a FWD. ABT does not suggest that the district court trial date will be accelerated. Nor could it, as evidence establishes a reasonable expectation otherwise, with median time-to-trial statistics for WDTX resolving to a trial date that is nearly two months after the FWD deadline. *See* APPLE-1136, at 37. Further, Apple has eliminated the potential for inefficiencies and duplication by stipulating not to advance references asserted in IPR grounds within invalidity grounds advanced in litigation if, and immediately upon, grant of institution, which confirms substantive PTAB review

[4] *Apex Beam Technologies LLC v. Apple Inc.*, Case No. 6:24-cv-00223-ADA-DIG (April 29, 2024).

of the same. Notably, in this regard, Apple's stipulation is consistent in scope with those endorsed for similar purposes. *See*, *e.g.*, *Shenzen Touzhu Technology Co. LTD v. Stratasys, Inc.*, IPR2025-00438, Paper 10, at 3 (PTAB July 17, 2025) ("*Shenzen*"); *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217 ("*Tesla*"), Paper 9 (PTAB June 13, 2025) ("*Tesla*"). Thus, if instituted, this proceeding would provide a true substitute for litigation.

Apple's Petition also presents strong merits, as confirmed at least by prior institution by a PTAB panel based on similar grounds at-issue in this proceeding and involving the same claims in addition to a new ground that addresses ABT's new theories. APPLE-1041 (Institution Decision, IPR2023-00601, Paper 11 (PTAB Oct. 3, 2023)) ("*Samsung I*"); *see also* APPLE-1164 (Institution Decision, IPR2023-00602, Paper 11 (PTAB Oct. 3, 2023)) ("*Samsung II*"). *Samsung I* implicated Xia-based grounds similar to the grounds in the Petition. Like the petition in *Tesla,* prior institution "counsel[s] against discretionary denial" because it demonstrates PTAB endorsement of a lack of patentability. *Tesla*, at 2 ("the Board previously determined there as a reasonable likelihood that similar claims…were unpatentable").

The appropriateness of substantive PTAB review is reinforced by factors not addressed by ABT, for example: (1) the implicated '113 patent is one of 17 patents asserted in co-pending litigation, (2) *inter partes* review serves the public interest

by enabling centralized review of the Asserted Patents, rather than forcing distinct validity challenges before the district court, and (3) such centralized review is an appropriate use of Office resources, particularly since examination of the '113 patent was incomplete due to applicant's failure to attribute third party material. *See* §III, *infra*; *Dabico Airport Solutions Inc. v. AXA Power APS*, IPR2025-00408, Paper 21 (PTAB June 18, 2025) ("*Dabico*"); *see also Tessel, Inc. v. Nutanix, Inc.*, IPR2025-00322 (PTAB June 12, 2025) ("*Tessel*") (discretionary denial based on "unfair dealings" when petitioner employees were the inventors). When holistically assessed, the three reasons addressed in §III, *infra*, demonstrate why discretionary denial is not appropriate, and do so independently of ABT's failure to justify application of discretion to deny institution.

More specifically, the Asserted Patents span 11 families covering diverse subject matter related to wireless technology. ABT acquired the Asserted Patents from two predecessors—Shanghai Langbo Communication Technology Company Ltd. ("Shanghai") and PanPsy Technologies, LLC ("PanPsy"), which are identified in the table below:

Shanghai Patents (10 of 16)	10,912,081; 10,462,767; 10,568,113; 11,063,727; 11,374,721; 11,626,904; 10,944,527; 10,951,271; 11,917,581; 11,546,110

PanPsy Patents (6 of 16)	10,979,128; 10,986,695; 11,139,944; 11,637,615; 10,965,434; 11,108,639

As recognized with respect to a dispute involving fewer patents, the "Board is better suited to review a large number of patents involving diverse subject matter." *Tesla*, at 3; *see also Shenzen*, at 3 ("The large number and vast scope of the patents asserted in the district court litigation weighs against discretionary denial, as the Board is better suited to review a large number of patents involving diverse subject matter.").

Beyond the large number of Asserted Patents, and the efficiencies gained by central review of them, ABT also sought to implicate its suit against Apple to a broad array of technologies. It characterized the Asserted Patents as relating to "systems and methods for transmission schemes in wireless communication systems." APPLE-1017, 13. This subject matter spans multiple technical areas within wireless communications, including paging, beam failure recovery, uplink cancellation, antenna virtualization, scheduling, listen-before-talk recovery, and multi-antenna transmission. *See id.*, 13-17. Given this and ABT's track record of filing serial lawsuits accusing widely adopted standard-based technologies, the PTAB resolving the patentability of the 16 challenged patents would yield outsized efficiencies relative to dispute resolution through multiple district courts across

multiple forums via serial lawsuits. *Berkshire Hathaway Energy Company, et al. v. BirchTech Corp*., IPR2025-00274, Paper 23, at 2-3 (PTAB July 2, 2025) ("*Berkshire*") (finding that "resolving the dispute between the parties at the Office would be more efficient" where "litigation between the parties would proceed to several district court trials in different jurisdictions").

Finally, observations concerning the conduct of the patent applicants in its dealings with the U.S. Patent and Trademark Office during original prosecution reveal the appropriateness and need for the Office to conduct a substantive review, as requested. Neither Shanghai nor PanPsy participated in formative 3GPP standard-setting efforts or contributed technical work to 3GPP's telecommunications standard. *See* APPLE-1147. Shanghai was founded in 2013—and PanPsy was founded even later in 2020. By the time either entity began patenting activity, the various 3GPP standards were long established by others. In offering what it advanced as enabling disclosure for the '113 patent, the named inventor simply offered supposed innovations that had already been disclosed or otherwise rendered obvious in material authored and published by others throughout the standard-setting process, as illustrated by the 3GPP-LTE-based grounds of the Petition. Yet, the applicants neither informed the Office of the source of this content nor disclosed the existence of the underlying 3GPP work, despite its direct relevance to the subject matter described in the detailed

description. This failure to cite and attribute such material deprived the Examiner of critical context that could have materially influenced patentability and inventorship determinations. In acquiring and prosecuting the Asserted Patents under these circumstances, ABT, its predecessors, and the named inventors engaged in conduct inconsistent with the advancement of the technological arts and the integrity of the U.S. patent system—further reinforcing why inter partes review is an appropriate use of Office resources. *See* §III.C, *infra*.

Based on a holistic assessment of the discretionary factors identified above (and further discussed in this Opposition), exercising discretion to deny institution is not appropriate in this proceeding.

II. DISCRETIONARY DENIAL IS NOT APPROPRIATE

A. Settled Expectations Do Not Support Discretionary Denial

1. ABT Has No Settled Expectations

a) The ’113 Patent Has Been In Force For Less Than Six Years

The ’113 patent issued in 2020, and thus, has been in force for less than six years—not long enough to establish a legitimate claim to settled expectations, much less strong settled expectations. *See, e.g.*, *Yealink*, at 3 (“…the challenged patent issued recently, in **2020**”); *Shenzen,* at 2 (“most of the challenged patents have not been in force for a significant period of time (issued in **2020**, 2020, 2021 and 2024)” and “Patent Owner has not developed

strong settled expectations that favor discretionary denial"); *Microsoft* at 2 (a challenged patent issued in **2020** has "not been in force for a significant period of time" and the "Patent Owner has not developed strong settled expectations that favor discretionary denial."); *Berkshire* at 3 ("…the challenged patents issued in 2019 and **2020,** such that Patent Owner has not developed strong settled expectations that favor discretionary denial."). Indeed, relative to the recent issuance, post-grant challenges to such young patents have been consistently characterized as "early" and "favor[ing] robust, predictable patent rights and weigh[ing] against discretionary denial." *See Micron Technology, Inc. v. Yangte Memory Technologies Co. Ltd.*, IPR2025-00190, Paper 21 at 3 (PTAB June 25, 2025) (patent issued in 2021 deemed "issued recently.").

b) Settled Expectations Are Not Strong For A Patent That Was Subject To An Instituted IPR, Which Was Ended Prematurely Based On Settlement After Being Endorsed For Establishing A Reasonable Likelihood of At Least One '904 Patent Claim Rendered Invalid

Further exposing ABT's claim to "strong settled expectations" is its short history with the '113 patent, which involved a recent PTAB challenge, i.e., IPR2023-00601 (APPLE-1041) directed against similar limitations based on similar grounds. The Board endorsed this recent challenge through institution. Indeed, ABT owned the '113 patent when challenged, and it terminated the proceeding through settlement rather than prevailing on the merits, belying the

claim it makes to settled expectations now, less than one year later. *See Samsung I*, Paper 29 (Sept. 11, 2024) (joint motion to terminate). ABT's claim to settled expectations is simply not credible when compared to an aggressive challenge to a related patent (advancing similar limitations) that resulted in settlement between the parties.

c) ABT's Recent Acquisition Of The '113 Patent Undermines ABT's Claim Of Settled Expectations

ABT's recent acquisition of the '113 patent in 2021 also undermines any claim to settled expectations favoring discretionary denial. ABT acquired the Asserted Patents recently, long after the PTAB became a common venue for efficiently resolving disputes over patent validity. By 2021, the PTAB's role was well established, with over one thousand petitions filed that year alone to enable assessment and confirmation of validity across a wide range of technologies, including telecommunications. *See* USPTO, PTAB Trial Statistics FY2021. With reasonable diligence attendant to the patent purchase, ABT could not legitimately conclude that this patent would be free of inquiry into validity, much less free of such an inquiry in the PTAB, a forum created by Congress for precisely that purpose.

d) ABT Plainly Misapplies *Dabico* Because It (1) Asserts Priority Date Creates Settled Expectations And (2) Overstates The Importance of *Actual Notice*

Citing to *Dabico*, ABT argues that "strong settled expectations" exist because the '113 patent claims priority to a foreign application that was filed in 2017. Req., at 10. Despite its citation, ABT's argument is flatly inconsistent with *Dabico*, which endorsed patent issuance as the relevant metric—not proclaimed priority to a foreign application. This stands to reason, as a patent owner cannot reasonably have settled its expectations on an unendorsed, unexamined application that remains subject to rejection by the Office. Issuance, rather than priority, is the right guidepost for assessing settled expectations. ABT fails to identify any authority suggesting otherwise. Certainly, no support is found in *Dabico* as the claimed priority to a series of applications with the earliest priority date in 2009. Yet, despite the presence of an earlier priority date—thus presenting an option between applying the issue date or an earlier priority date—the *Dabico* decision focused on the issue date.

The language used in *Dabico* further confirms that issue date controls for establishing settled expectations. Indeed, based on a 2017 issuance of the challenged patent, it had "**been in force** almost eight years, creating settled expectations." *See Dabico*, at 2. In other words, reference to "almost eight years" implicitly refers to the issue date of the challenged patent in relation to the date of

the decision.

ABT further argues that Apple had actual notice of the ’113 patent since December 2022. Req., at 10-11. ABT’s arguments, however, are inapposite, as *Dabico* makes clear that the distinction between actual notice and constructive notice is not meaningful. *Id.* at 3 (“As such, actual notice of a patent or of possible infringement is not necessary to create settled expectations.”). That is, in *Yealink*, *Shenzen*, *Microsoft*, and *Berkshire*, all bearing on patents issued in 2020 or earlier, notice was assumed, and yet, settled expectations were not deemed to be strong nor referral denied. *Yealink*, at 2 (challenged patent issued in 2020); *Shenzen*, at 3 (challenged patents issued in 2020, 2020, 2021, and 2024); *Microsoft,* at 2 (challenged patents issued in 2020, 2021, and 2023); *Berkshire* at 3 (challenged patents issued in 2019 and 2020).

e) Invalidation Of Related Chinese Patents Contradicts Any Settled Expectations By ABT

Invalidation of Chinese patents related to a subset of the Asserted Patents also contradict ABT’s settled expectations and instead confirm the public’s settled expectation that the challenged claims may be unpatentable. The China National Intellectual Property Administration (CNIPA) has fully invalidated the patent rights of Chinese counterparts of 6 of the Asserted Patents: U.S. Pat. Nos. 10,912,081 (CN111585736A, CN108882365B), 11,063,727 (CN108023616B),

10,462,767 (CN108923896), 11,917,581 (CN108923896), 10,944,527 (CN108155923), and 11,546,110 (CN108155923). *See* APPLE-1150; APPLE-1151; APPLE-1152; APPLE-1153; APPLE-1154.

The invalidation decisions were issued in May 2023—almost two years before the petition in this proceeding (and all related proceedings). In other words, ABT has been on notice of invalidating prior art before this proceeding, removing any possibility of settled expectations. There is no evidence that ABT has taken any further action despite being on notice of these invalidations. For instance, ABT has not asked the Office to reexamine any of relevant U.S. patents (10,912,081, 11,063,727, 10,462,767, 11,917,581, 10,944,527, 11,546,110) in light of the prior art considered in the Chinese invalidation proceedings.

2. Regardless Of Settled Expectations, Discretionary Denial Would Still Be Inappropriate Due To Material Error By The Office

Even if ABT could claim any settled expectations, those expectations are offset and overcome by material error in the examination of the '113 patent. In *Anthony Inc. v. ControlTec LLC* ("*Anthony*"), "challenged patents [that] have been in force for approximately eighteen and seventeen years" did not support discretionary denial because "Petitioner appears to show a material error by the Office." IPR2025-00559, Paper 12, at 2 (PTAB Jul. 16, 2025). Here, the '113 patent is more than ten years younger than the patents at-issue in *Anthony*, and

thus, any material error in the examination of the '113 patent weighs much more heavily in favor of it being an "appropriate use of Office resources to review the potential error." *Id.*

Like *Anthony*, the material error in examination of the '113 patent results from premature allowance reflecting the Examiner's lack of appreciation for relevant prior art. *Anthony*, at 2 (noting that "the patent examiner erred by overlooking the teachings of Carter" in issu[ing] a notice of allowance of both patent applications as the first office action).

More specifically, in original examination of the '113 patent, allowance followed applicant's amendments to the independent claims, which recited that "a time domain resource occupied by the first radio signal is used for determining a second time window, a time domain resource occupied by the second radio signal is within the second time window, and the second time window is within the first time window; a time domain resource occupied by the second radio signal is used for determining a third time window, and the end time of the third time window is the end time of the first time window; and the second time window and the third time window have overlapped time domain resource(s)." APPLE-1002, 153-154, 156-159 (applicant's amendments incorporating key limitations), 166-169, 172-182 (Notice of Allowance). However, these added features were directed to subject matter to which, for example, Xia, a prior art reference filed by 3GPP

member Futurewei Technologies, Inc., and the 3GPP Long Term Evolution (LTE) standard, Release 14 ("3GPP-LTE"), were both directly pertinent. APPLE-1003 ¶¶134-145, 225-244 (testimony from Dr. Robert Akl).

The Examiner's material error stems in part from the insufficient search strategy, which, due to defects in the search reflected in the prosecution record, failed to uncover the more-pertinent prior art. For example, the Examiner's initial "search strategy and results" indicate that the Examiner failed to search for contention-based random access procedure, random access (RA) procedure, link failure, or contention resolution, all of which are directly related to the claimed technology. *See* APPLE-1002, 146-147. As another example, while the Examiner's search queries did include "beam adj1 recovery adj1 request," a more relevant phrase than "beam recovery request" for the claimed subject matter would have been "beam ***failure*** recovery request," a phrase that would not have been captured by the Examiner's limited search string.

Moreover, despite issuing a Notice of Allowance following the applicant's urging that the prior art lacked newly-added claim elements, the record does not reflect that a search was performed in a manner that properly targeted those elements with relevant keywords. Again, the search strategy in the prosecution record confirms that, following the applicant's amendment, the Examiner's search queries were overly narrow and failed to capture, for example, other phraseology

that covered the claimed "time windows." For example, the Examiner's search strings following the amendment, apparently directed to the various "time window" limitations," were limited to strict search strings (e.g., "(L1 L2) and (target same (time adj1 window)).clm.," "(S1 S2) and (target same (time adj1 window)).clm.," "(target and (time adj1 window) and (target adj1 measurement adj1 value) and (time adj1 domain adj1 resource)).clm.") and failed to include alternative language that might otherwise capture the claimed concept. *Id.*, 146-147, 187, 189-191. APPLE-1002, 187 (limiting search results to "time adj1 window," thus requiring the terms "time" and "window" to be next to each other), 189-191. Indeed, the Examiner's overly narrow search string "time adj1 window"—requiring the search terms to be next to one another—would fail to capture, for example, results that included the phrase "window of time." The Examiner's poorly crafted search queries are reflected on the cover of the '113 patent, where ***merely eight prior art references*** are listed as "References Cited" during prosecution of the '113 patent—and, notably, not a single document from the 3rd Generation Partnership Project. APPLE-1001, cover.

3GPP-LTE, for example, provides fulsome disclosure of "windows," such as the "RAR response window" and the "contention resolution timer," which the Examiner's overly narrow search strings would not have yielded. APPLE-1023, §5.1.4, §5.1.5, §3.1. Notably, in the Notice of Allowance, the Examiner listed the

entirety of the independent claims as the reasons for allowance, thereby providing no insight as to which specific features were allowable. Yet, by failing to properly target specific claim elements, and without submission of any art by the applicant, the claims were granted in error without proper consideration of the full state of the art.

B. Discretionary Denial Under *Fintiv* Is Inappropriate

As discussed below, holistic weighing of the *Fintiv* factors favor institution. *Fintiv*, Paper 11 (PTAB Mar. 20, 2020) (precedential).

1. The Fintiv Factors Do Not Support Discretionary Denial

a) Factor 1—Neutral—No Stay Has Been Requested In The Litigation

Because no motion to stay has been filed (Factor 1), the outcome of a motion to stay cannot be inferred, nor the existence of stay known. *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24, at 7 (June 16, 2020) (informative). This factor is therefore neutral.

b) Factor 2—Favors Referral—The Final Written Decision Is Likely To Issue Before The Scheduled Trial Date

While ABT points to a scheduled trial date of December 7, 2026 (Req., at 6; Ex. 2001), ABT acknowledges the trial is scheduled to begin several weeks after the FWD deadline. And with so many patents asserted, it is likely that the patents would be tried in tranches—or not even tried at all (depending on how many

patents actually remain by trial). Indeed, accounting for the median time-to-trial statistics in the Western District of Texas (WDTX), trial is more likely to occur in January 2027 or later—well after the projected FWD deadline of November 18, 2026. *See*, *e.g.*, *Zhuhai Cosmx Battery Co., LTD., v. Ningde Amperex Technology Limited*, IPR2023-00587, Paper 12, at 11 (PTAB Sept. 22, 2023) (considering statistical data showing delays in trial schedules when weighing proximity to FWD). Even if trial were to conclude as scheduled, disposition of post-trial motions may take 9-10 months[5] such that final resolution of the Litigation would extend well beyond the FWD deadline. These trial and post-trial expectations tip Factor 2 against denial.

Even if trial were to occur slightly before FWD (and there is no reason to believe that will occur here given the scheduled trial date), early challenge to recently-issued patents tip the balance against discretionary denial. In *Zhuhai*, a FWD was expected to issue one month *after* the trial in the counterpart litigation,

[5] *See, e.g.*, *ACQIS LLC v. ASUSTeK Computer, Inc.*, No. 6:20-cv-00966 (W.D. Tex.) (approximately 10 months between verdict in March 2024 and final judgment in January 2025), and *VideoShare, LLC v. Google LLC*, No. 6:19-cv-00663 (W.D. Tex.) (approximately 9 months from verdict in November 2021 to final judgment in August 2022).

and yet, discretionary denial was not deemed appropriate because "early challenges to the patents **tip the balance** against discretionary denial." *Zhuhai*, at 2-3. Here, Apple's Petition similarly represents an early challenge (within 6 years of issuance) to the '113 patent, which tips the balance against discretionary denial, even if trial were to occur before the FWD and result in some inefficiencies with two proceedings operating in parallel.

Factor 2 therefore favors referral for merits consideration.

c) Factor 3—Favors Referral—Minimal Relevant Investment By The Parties And Expeditious IPR Filing

Investment in the district court proceeding remains low because discovery has not begun. This weighs against discretionary denial as IPRs can inform ongoing litigation. *See*, *e.g.*, *Crowdstrike Inc. v. Webroot, Inc.*, IPR2023-00126, Paper 9, at 10 (PTAB May 5, 2023) (early-stage investment weighs against denial).

ABT's own conduct confirms the lack of meaningful investment. Although it previously asserted the '113 patent against a different defendant, it took no steps to diligently prosecute its claims until filing suit against Apple. And in its suit against Apple, ABT delayed more than ten months in filing a Case Readiness Status Report (CRSR) after it was permitted under the court's Order Granting

Procedure (OGP) to do so.[6] This abject failure, and refusal to move the Litigation forward, suggests ABT itself did not consider expeditious resolution of the '113 patent a priority, and it cannot now credibly argue that the district court proceeding reflects substantial investment.

Apple's Petition was also timely under § 315(b), and ABT fails to demonstrate any evidence of gamesmanship in any perceived delay of filing. Rather, the timeline to filing reflects Apple's good-faith efforts to engage in FRAND negotiations. Multiple IPRs also promote efficiency by addressing related patents cohesively.

Fintiv Factor 3 therefore favors referral for merits consideration.

d) Factor 4— Favors Referral—Apple's Broad Stipulation Eliminates Overlap of Issues Between The IPR And The Litigation

Apple has filed a broad stipulation that mitigates concerns about duplicative efforts, committing not to pursue in the Litigation any invalidity grounds based on printed publications or patents that could have been raised in the IPR. APPLE-

[6] ABT's timeline to file the CRSR was triggered by Apple's response to the complaint by July 19, 2024. ABT then delayed filing to May 20, 2025. This delay matters because the CRSR is the trigger for the WDTX patent OGP's milestones and deadlines.

1042. This stipulation extends beyond *Sotera* to include "combinations of the prior art references asserted as part of a ground in this proceeding with unpublished system prior art or any other type of prior art," thereby avoiding duplication of effort and inefficiencies by ensuring minimal overlap even if litigation is not stayed upon institution. That is, the stipulation also addresses combinations of the prior art references asserted as part of a ground in this proceeding with system prior art, thereby addressing the efficiency concerns raised in in *Motorola Solutions, Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19, at 4 (PTAB Mar. 28, 2025) ("*Motorola*").

Fintiv Factor 4 therefore favors referral for merits consideration.

e) Factor 5—Neutral—The Parties Are The Same In The IPR And The Litigation

While the parties in the Litigation are the same as here (Factor 5), this factor alone does not favor denial, particularly where, as here, the Petition demonstrates strong merits of unpatentability.

f) Factor 6—Favors Referral—The Merits Of The Petition Are Strong

The Board's earlier institution of *inter partes* review in IPR Proceeding No. IPR2023-00601, which includes Grounds 1 and 2 of the instant Petition, demonstrates the strength of this Petition. IPR2023-00601, Paper 11 (PTAB Oct.

3, 2023). Moreover, as set forth in the Petition, the '113 patent claims are plainly unpatentable over prior art. In addition to the Xia-based grounds in Grounds 1 and 2, this proceeding further advances 3GPP-LTE-based grounds (Grounds 3A and 3B), which further demonstrate satisfaction of the features deemed allowable in original examination. *See* Pet., 1-2. The Petition demonstrates that the elements mistakenly believed by the Examiner to be new were in fact plainly known in the prior art. The grounds are strong and support referral of institution.

Fintiv Factor 6 therefore favors referral for merits consideration.

g) Holistic Evaluation Of All Factors

As discussed above, each *Fintiv* factor is either neutral or favors referral, and thus, all *Fintiv* factors weigh against denial on discretion. Decisions on discretion recently issued in *Shenzen* and *Tesla* further confirm that it would be inappropriate to exercise discretion based holistic weighing of the *Fintiv* factors in this case.

More specifically, in *Shenzen*, petitioner's "broad stipulation" was found to weigh against discretionary denial given a complex counterpart litigation involving nine patents spanning six distinct families. *Shenzen*, at 3. In *Tesla*, the petitioner similarly filed a "broad stipulation" in relation to a counterpart litigation involving eleven patents spanning nine different families. *Tesla*, at 2-3. The facts are even more favorable in this proceeding, as Apple has filed a stipulation of similar scope as those filed in *Shenzen* and *Tesla*, and yet, the counterpart litigation is even more

complex, involving more (17) asserted patents (16 of which have been challenged in IPRs) spanning across more (11) distinct families.

Compared to *Tesla*,[7] discretionary denial is even less appropriate than in this proceeding for at least two additional reasons:

(1) In *Tesla*, the scheduled trial date unambiguously preceded the FWD by about two months. In contrast, trial in the present proceeding is scheduled after the FWD; and

(2) In *Tesla*, the parties had progressed further in litigation, with the *Markman* hearing scheduled three months prior to the expected date of an institution decision. In the present proceeding, the parties have substantially less investment in the Litigation, with the *Markman* hearing not scheduled until November 21, 2025, after the November 18, 2025 due date for a decision on institution in this proceeding.

[7] The court has indicated it does not believe that it is fair to a jury to consider more than three patents at a time. *See* APPLE-1058; *see also* APPLE-1059 (example of bifurcation order delineating larger case into tranches). A trial for any given patent across the seventeen patents is therefore likely to occur later than the currently scheduled date.

2. Regardless Of The Fintiv Factors, Discretionary Denial Would Still Be Inappropriate Due To Material Error By The Office

Even if there are any inefficiencies resulting from parallel litigation, those inefficiencies are offset and overcome by material error in the examination of the '113 patent. In *Microsoft Corp. v. Partec Cluster* ("*Microsoft II*"), "the scheduled district court trial [being] set to precede the expected final written decision due date by a month" did not warrant discretionary denial "because of Petitioner's showing of material error during patent examination." IPR2025-00318, Paper 9, at 3 (PTAB June 12, 2025). Here, the timing is more favorable than *Microsoft II*, as the scheduled trial date of the Litigation is *after* the projected FWD. Thus, any material error in the examination of the '113 patent is a much more "appropriate use of Office resources to review the potential error." *Id.*; *see also Padagis US LLC v. Neurelis Inc.*, IPR2025-00464, Paper 12, 3 (PTAB Jul y16, 2025) ("Petitioner appears to show a material error by the Office, and it is an appropriate use of Office" despite "a scheduled district court trial date that precedes the date projected for a Board final written decision").

Further, as discussed above in §II.A.2, the Examiner materially erred by failing to appreciate pertinent art not in the record (e.g., Xia, Jover, 3GPP-LTE, Yi, Liu), as a result of overly-narrow or poorly-targeted search queries. *Supra*, §II.A.2; *see Microsoft Corp. v. Partec Cluster*, IPR2025-00318, Paper 9, 3 (PTAB

June 12, 2025);

III. *INTER PARTES* REVIEW IS AN APPROPRIATE USE OF OFFICE RESOURCES

Referral of institution is further appropriate because, as *Dabico* confirms, the application of discretion turns in part on whether instituting review represents an appropriate use of Office resources. Here, various factors discussed, particularly below, make that showing clear. Together, these factors confirm that this proceeding is not only appropriate for PTAB review, but also a prudent use of the Office's resources.

A. Complex Litigation Makes The PTAB Better Suited To Adjudicate Validity

1. The Litigation Involves 17 Different Patents

As noted previously, the Litigation involves 17 patents spanning 11 distinct families, and each of these patents has been in force for less than six years. These circumstances present "a large number" of patents and thus, "the Board is better suited to review" their validity. *See Tesla,* at 3 (litigation involving 11 patents spanning 9 different families). *See also Tesla, Inc. v. US Navy*, IPR2025-00341 ("*Tesla II*"), Paper 12, at 2 (PTAB June 13, 2025) (same); *Shenzhen*, at 3 (litigation involved 9 different patents spanning 6 different families). The present dispute involves more patents spanning more families than the counterpart litigations implicated in *Tesla*, *Tesla II*, and *Shenzen*. Asking a jury to consider such a large

number of patents within a single trial is consequently even more unreasonable presently than doing so in each of *Tesla*, *Tesla II*, and *Shenzen*. Simply put, the PTAB is better suited to review the validity of sixteen of the seventeen patents. For this reason alone, *inter partes* review in this proceeding is an appropriate use of Office resources.

2. The Litigation Involves Patents With Diverse Subject Matter

Beyond the large number of patents implicated, the Litigation is also complex. The technical subject matter spans multiple, distinct technology aspects. This diversity is reflected in 14 distinct base prior art references being applied across the IPR proceedings, each of which further incorporates different prior art combinations tailored to the specific claim limitations at issue. Such variation underscores that the patents do not implicate a single, unified invalidity theory, but instead require separate and highly technical analyses of discrete 5G functionalities—ranging from physical layer signaling techniques to higher-layer protocol operations. This fragmentation of issues makes it impractical for a lay jury to resolve the full scope of validity disputes in a single trial, while reinforcing that the PTAB, with its technical expertise and ability to adjudicate multiple parallel proceedings, is uniquely equipped to handle the breadth and complexity of these claims efficiently and consistently.

B. Substantive *Inter Partes* Review, Available Only Upon Referral, Would Yield Significant Efficiencies

The PTAB is uniquely situated to provide efficient review of the '113 patent given the complex validity issues not only at issue in this proceeding, but 18 others implicating other Asserted Patents in the Litigation. *Inter partes* review in this proceeding (and the 18 other proceedings) thereby serves the public interest by centrally settling patent validity, rather than forcing distinct validity challenges before the district court. This promotes the AIA's objectives of improving patent quality and reducing unwarranted litigation burdens on the public and industry participants. *See* 35 U.S.C. § 311; H.R. Rep. No. 112-98, pt. 1, at 48 (2011) (noting role of IPR in providing "a quick and cost effective alternative[] to litigation").

Such centralized review is crucial because ABT's track record demonstrates a propensity to assert the patents against adopters of widely used, standards-based technology. ABT has already established a pattern of aggressive enforcement of the '113 patent and related patents. It has also contended that practicing this standard implicates its patents, and it has repeatedly filed lawsuits targeting companies that implement products interoperable with 5G. The high likelihood of future assertions against entities practicing related wireless communication technologies and the underlying wireless communications standard reinforces the

importance of validity investigation of the ’113 patent and related patents. In enforcing the Asserted Patents, ABT simply accuses the practice of the 5G standard, and it has already filed 6 distinct district court litigations. Further litigation is, therefore, more than reasonably likely, and addressing validity at the PTAB will resolve a key question that would otherwise need to be addressed multiple times over, in less efficient forums that do not bring the benefit of perspective from highly technical PTAB judges.

According to the Cellular Telecommunications Industry Association (CTIA), the 5G standard, to which ABT claims its patents are essential, is used “all over the country” to “create the future and enhance America’s economic competitiveness” across multiple critical industries, such as healthcare and transportation. *See* APPLE-1137. Institution of this proceeding thereby resolves validity, and in doing so, helps create greater predictability for practicing entities within this technology domain. It further creates significant downstream efficiencies for the Patent Office, the courts, and the public by resolving validity once and for all at a single time in a single forum.

Given the ubiquitous nature of 5G—a global standard supported by billions of devices—the risk of further litigation on this patent is not speculative. It is reasonably foreseeable because patent litigation against companies offering products that support 5G and similar standards has been both serial and prolific.

Beyond Apple, numerous other companies manufacture or implement 5G devices, including but not limited to those against which the patent has been asserted thus far. In alleging infringement by Apple, ABT mapped its asserted patents (including the '113 patent) to "5G standards" and then further identified alleged practicing entities, including "Samsung, TCL, OnePlus, and ZTE…" APPLE-1017, 12 (citing email correspondence from ABT's Managing Director to Apple counsel). These statements reveal ABT's belief that the '113 patent implicates broad adoption by companies for allegedly infringing activity, which have not yet been subject to suit. *See* APPLE-1138. ABT itself has therefore highlighted that its asserted patents, including the '113 patent, purport to cover 5G features. *Id*.

Finally, *inter partes* review of this proceeding is also consistent with recent discretionary guidance regarding counterpart litigation that "would proceed to several district court trials in different jurisdictions…" *Berkshire*, at 2-3. There, such litigation resulted in *inter partes* review being deemed to represent an efficient use of Office resources. ABT's serial litigation activity suggests Apple will not be the last defendant accused of infringement. ABT's assertion of 17 patents, therefore, both in the Litigation and any future litigations against companies supporting 5G wireless communication technology is likely to span multiple district court trials across multiple jurisdictions. Under these circumstances, "resolving the dispute between the parties at the Office would be

more efficient." *Berkshire*, at 2.

C. Applicant's Failure To Attribute Third Party Technical Work Resulted in Material Error And Warrants *Inter Partes* Review

Inter partes review is also an appropriate use of Office resources in the instant case because, in acquiring the Asserted Patents (including the '113 patent), ABT, its predecessors, or named inventors conducted themselves in a manner that impeded the substantive examination of the subject patent by the examiner, thus compromising the integrity of this patent and, for that matter, the integrity of the U.S. patent system.

ABT's predecessors—Shanghai and PanPsy—did not originate technical content underlying the Asserted Patents. *See, e.g.*, APPLE-1142; *see also* APPLE-1143; APPLE-1144; APPLE-1145; APPLE-1146; APPLE-1147. Instead, they gained access to publicly available technical materials developed by others, incorporated that content into their applications, and presented them to the Office, passing them off as their own without attribution or disclosure of true origin. By failing to inform the Office that the claimed subject matter was derived from prior technical developments authored by third parties, Shanghai and PanPsy deprived the handling examiner of context that should have been made available to inform a fulsome search for prior art and consideration of patentability, both substantively and regarding inventorship. This conduct is unhelpful, and it threatens the

integrity of the patent system, which relies on applicants to disclose material information and claim only what they have truly invented.

Recent decisions on discretion highlight the importance of equity-based considerations in assessing whether to allocate the limited resources of the Office to substantive consideration of IPR grounds that present a basis for unpatentability, e.g., party conduct rising to unfair dealings have been deemed pertinent to the exercise of discretion because such conduct reflects whether *inter partes* review represents an appropriate use of Office resources. While the facts in these decisions happened to implicate petitioner conduct, the theories implicate fairness more generally and beg for considerations of fairness in relation to the conduct of petitioners and patent owners, as it relates to a decision on whether to exercise discretion in denying institution.[8]

[8] In *Analog Devices, Inc. v. Number 14 B.V.*, IPR2025-00550 (PTAB July 16, 2025) ("*Analog Devices*"), a party's use of Patent Office resources to apply for and be issued a patent was deemed to preclude later use of Office resources by that same party to advocate for unpatentability of the issued patent. Similarly, in *Tessel*, denial was based on "unfair dealings" when petitioner employees were the inventors. And in *Realtek Semiconductor v. Parkervision*, IPR2025-00324, Paper

Here, tactics by ABT's predecessors call into question the quality of prosecution earlier performed, and despite this flowing in part from patent-applicant conduct, it nevertheless demonstrates that Office resources would be well spent in referring this petition for substantive review of its grounds, if only to promote patent system integrity.

1. Prosecution Misconduct—Failure To Disclose Material 3GPP Contributions In The '113 Patent

The prosecution history of the '113 patent reflects conduct that undermines the integrity of the U.S. patent system. Publicly, Shanghai Langbo's executives, including the CTO and named inventor of the '113 patent (Xiaobo Zhang), have described the company's business model as focused on generating patents for licensing based on 4G/5G technology. *See* APPLE-1160; APPLE-1161; APPLE-1162.

Zhang also publicized that he led "3GPP standardized and product development" between January 2009 to May 2013, suggesting he monitored 3GPP working group meetings and accessed 3GPP documents as part of that business strategy before the application that issued as the '113 patent was filed on August 9,

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11, at 2-3 (PTAB June 25, 2025), "fairness" and "equity" were invoked to limit joinder for time-barred petitioners, allowing it only in "exceptional circumstances."

2018. *See* APPLE-1160. However, not a single 3GPP contribution was cited during prosecution of the '113 patent. Indeed, the prosecution history suggests a failure to reveal information relevant to the patentability of the claims, if not a deliberate attempt to mislead the Office. Despite this monitoring of 3GPP developments and publications, ***applicant filed no IDS forms during prosecution of the '113 patent***. *See, generally* APPLE-1002; MPEP 2001 ("Duty of Disclosure, Candor, and Good Faith").

This omission denied the Examiner an opportunity to fully assess the true state of the art, both substantively and with respect to inventorship. It reflects misleading advocacy and selective disclosure, where applicants acknowledged the existence of a general prior approach, but withheld the most relevant and material documentary evidence describing it. Such conduct frustrates the Office's examination process and disturbs the settled expectations of implementers and the public. When applicants knowingly withhold key technical documents from standard-setting meetings while claiming to solve problems those documents already addressed, they distort the patent system to secure rights that may not be deserved. *Inter partes* review is therefore warranted—not only on the merits—but to safeguard the Office's mission and discourage sharp prosecution practices that threaten confidence in issued patents.

IV. REFERRAL OF THE INSTANT PETITION IS APPROPRIATE BASED ON EFFICIENCIES GAINED BASED ON PRIOR REFERRAL OF SEVEN PETITIONS CHALLENGING PATENTS ASSERTED IN THE SAME CO-PENDING LITIGATION

Indeed, even if settled expectations and *Fintiv* considerations weighed in favor of discretionary denial (they do not), and even if other factors did not justify referral for merits consideration (they do), referral of the instant '113 petition would still be appropriate because, as recognized in *AMD*, its referral yields an efficient use of Board resources when accounting for earlier referral of co-pending petitions challenging seven other concurrently asserted patents in the same lawsuit. *AMD*, at 3 (PTAB July 31, 2025) (given prior institution of petitions challenging other patents asserted in the same co-pending litigation, referral of institution in this proceeding "is an efficient use of Board resources to address the challenged patent as well").[9]

V. INSTITUTION OF MULTIPLE PETITIONS IS WARRANTED BASED ON PRIORITY CONSIDERATIONS PREVIOUSLY ENDORSED BY THE BOARD

The PTAB previously considered two petitions filed by another party against the '113 patent and instituted both proceedings based on nearly identical grounds as those included in the instant petitions and that therefore drive submission by

[9] The '113 patent is related to seven patents amongst the Asserted Patents for which IPRs have been referred for merits review. *See* Footnote 2.

Petitioner of the same. APPLE-1041 (Institution Decision, IPR2023-00601, Paper 11 (PTAB Oct. 3, 2023)); APPLE-1164 (Institution Decision, IPR2023-00602, Paper 11 (PTAB Oct. 3, 2023)). The grounds advanced by those petitions, while instituted, did not reach resolution, as Patent Owner settlement inspired termination prior to FWD, as noted above. *Supra*, § II.A.1.b.

Here, institution of both IPR petitions would prevent the unjust result of otherwise strong invalidity grounds being dismissed for procedural reasons. Denial of the IPR2025-00921 petition would allow Patent Owner to strategically delay attacking Xia's prior-art status until after institution, at which point the combination of Liu (which has an earlier priority date than Xia) and Jover would no longer be available to Apple as a result of denial of the IPR2025-00921 petition. *See* APPLE-1164, at 10 ("Patent Owner has not stipulated that Xia qualifies as prior art. … Thus, there exists the potential for a prior art dispute during trial.").

Moreover, any burden imposed on the Office in now adjudicating multiple petitions against the '113 patent is the product of Patent Owner's decisions to voluntarily terminate the earlier IPR2023-00601 and IPR2023-00602 proceedings. As explained in the ranking paper submitted with Apple's petitions, that burden is also offset by multiple reasons justifying institution of both petitions. *See* Paper 2, at 2-5. Notably, these reasons remain undisputed. In view of the same priority concerns as the previously-instituted petitions, unique merits of each ground, and a

potential unjust result if Patent Owner were able to present arguments against one set of art without addressing the other—none of which Patent Owner disputes—institution of both petitions is likewise appropriate here.

VI. CONCLUSION

For the reasons set forth above, Apple requests denial of Patent Owner's Request for Discretionary Denial.

Respectfully submitted,

Date: September 4, 2025

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CERTIFICATION UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24, the undersigned hereby certifies that the word count for the foregoing Petitioner's Opposition to Patent Owner's Request for Discretionary Denial totals 7,745 words, which is less than the 14,000 allowed under 37 CFR § 42.24.

Respectfully submitted,

Date: September 4, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), the undersigned certifies that on September 4, 2025, a complete and entire copy of this Petitioner's Opposition to Patent Owner's Request for Discretionary Denial and all supporting exhibits were provided via email to the Patent Owner by serving the correspondence email addresses of record as follows:

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