

Petitioners' Opposition To Patent Owner's
Request For Discretionary Denial Of Institution
U.S. Patent No. 11,063,625

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioners,

v.

MASSIVELY BROADBAND LLC.,
Patent Owner.

Case No. IPR2025-01564

U.S. Patent No. 11,063,625

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

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. THERE ARE NO SETTLED EXPECTATIONS IN THE VALIDITY OF THE '625 PATENT.....	2
A. Patent Owner Lacks Settled Expectations.....	2
B. Patent Owner's First-Time Assertion and Lack of Commercialization Undercut Any Claim of Settled Expectations	4
III. EFFICIENCY AND CONSISTENCY STRONGLY WEIGH AGAINST DISCRETIONARY DENIAL	6
IV. THE EXAMINER ERRED IN ALLOWING THE '625 PATENT.....	10
V. THE <i>FINTIV</i> FACTORS WEIGH AGAINST DISCRETIONARY DENIAL.....	12
A. Factor 1: The District Court Has Not Indicated Its View on a Stay	12
B. Factor 2: Trial Is Scheduled After the Final Written Decisions	13
C. Factor 3: The Parties' Limited Investment In The District Court Litigation Weighs Against Discretionary Denial.....	14
D. Factor 4: Petitioners' Broad Stipulation.....	15
E. Factor 5: Petitioners Being the District Court Defendants Does Not Outweigh the Factors Weighing Against Discretionary Denial	17
F. Factor 6: The Merits of the Petition are Strong	17
VI. CONCLUSION.....	18

Petitioners' Opposition To Patent Owner's
Request For Discretionary Denial Of Institution
U.S. Patent No. 11,063,625

TABLE OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 11,063,625 (“’625 Patent”)
1002	File History for U.S. Patent No. 11,063,625
1003	Declaration of Dr. Mark Mahon
1004	<i>Curriculum vitae</i> of Dr. Mark Mahon
1005	U.S. Patent Publication No. 2011/0250928 A1 (“Schlub”)
1006	U.S. Patent Publication No. 2013/0237272 A1 (“Prasad”)
1007	U.S. Patent No. 9,362,994 (“Seol”)
1008	WIPO International Publication No. WO 2014/194455 A1 (“Yin”)
1009	U.S. Patent Publication. No. 2011/0182174 A1 (“Pi”)
1010	U.S. Patent Publication No. 2009/0295648 A1 (“Dorsey”)
1011	U.S. Patent No. 8,593,358 (“the ’358 patent”)
1012	IEEE Standard 145-2013 - IEEE Standard for Definitions of Terms for Antennas
1013	Patent Owner’s Preliminary Infringement Contentions, Ex. 11
1014	Molisch, Andreas F., Wireless Communications 2nd Ed., Wiley, 2011
1015	Balanis, Constantine A., Antenna Theory: Analysis and Design, 2nd Ed., Wiley, 1997
1016	Lathi, B. P., Modern Digital and Analog Communication Systems, HRW, 1983
1017	Beard, Cory and Stallings, William, Wireless Communication Networks and Systems, Pearson, 2016
1018	U.S. Patent Publication No. 2004/0021605 A1
1019	Sanchez-Hernandez, David A., Editor, Multiband Integrated Antennas for 4G Terminals, Artech House, 2008
1020	U.S. Patent No. 5,794,145 (“Milam”)
1021	Marinez-Vazquez Marta, et al., “Integrated Planar Multiband

Petitioners' Opposition To Patent Owner's
Request For Discretionary Denial Of Institution
U.S. Patent No. 11,063,625

Exhibit	Description
	Antennas for Personal Communication Handsets,” IEEE Transactions on Antennas and Propagation, Vol. 54, No. 2, February 2006
1022	B. D. Van Veen and K. M. Buckley, "Beamforming: a versatile approach to spatial filtering," in IEEE ASSP Magazine, vol. 5, no. 2, April 1988.
1023	M. A. Jensen and J. W. Wallace, "A review of antennas and propagation for MIMO wireless communications," in IEEE Transactions on Antennas and Propagation, vol. 52, no. 11, Nov. 2004.
1024	Yu, Zhong, et al., “Beamforming on Mobile Devices: A First Study,” Proceedings of the 17th International Conference on Mobile Computing and Networking, September 19-23, 2011, Las Vegas, NV.
1025	U.S. Patent No. 7,308,285 (“Nelson”)
1026	D. Mizell, "Using gravity to estimate accelerometer orientation," Seventh IEEE International Symposium on Wearable Computers, 2003. Proceedings., White Plains, NY, USA, 2003, pp. 252-253.
1027	K. Kunze, P. Lukowicz, K. Partridge and B. Begole, "Which Way Am I Facing: Inferring Horizontal Device Orientation from an Accelerometer Signal," 2009 International Symposium on Wearable Computers, Linz, Austria, 2009, pp. 149-150.
1028	Masters Thesis, Internal Control of a Beamforming Antenna Array for Use in Cellular Phones, Patrick Schmidt, 2010 (“Schmidt”)
1029	Johnson, D. H., & Dudgeon, D. E., Array Signal Processing: Concepts and Techniques, 1993.
1030-1049	Intentionally Omitted
1050	“NYU Wireless’ Rappaport envisions a 5G, millimeter-wave future,” available at https://www.fierce-network.com/special-report/nyu-wireless-rappaport-envisions-a-5g-millimeter-wave-future
1051	U.S. District Court Time-to-Trial Statistics for EDTX (Sept. 2025)

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

I. INTRODUCTION

The Director should deny Patent Owner's request for discretionary denial in this proceeding (Paper 10) ("Request") as well as the eleven other IPR proceedings against patents asserted by Patent Owner (the "Challenged Patents"). Each of the relevant factors weigh against denial. *First*, the *Fintiv* factors heavily weigh against denial because trial is scheduled to occur after the projected dates of all twelve of the Final Written Decisions.

Second, Patent Owner lacks settled expectations because the '625 patent has been in force for less than five years, and is part of a family that includes other recently-issued patents. In addition, Patent Owner also lacks settled expectations because despite its contentions that the sole inventor on all twelve patents, Dr. Rappaport, had collaborated with Petitioners for multiple decades and had made significant contributions to the industry, Dr. Rappaport *never* indicated to Petitioners of any potential infringement of his patents and *never* told any industry standards groups that his patents were related to the accused Wi-Fi, 4G-LTE and 5G standards.

Third, Patent Owner has asserted, and Petitioners have challenged, twelve patents belonging to three unrelated families that cover four different technologies. Given the wide scope of the subject matter of the Challenged Patents, the Board is better positioned to adjudicate the validity of these patents.

Finally, institution is appropriate to cure the material errors committed by the

**Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625**

examiner during prosecution of the '625 patent. Specifically, the examiner allowed the claims over the considered art, and in particular, the Dorsey reference, after the Board determined on appeal that Dorsey lacked disclosure of adjusting the beam radiation pattern of a *single* steerable antenna. But the examiner overlooked art that discloses a single steerable antenna with an adjustable beam radiation pattern. Such antennas are well-known in the art—including in the Petition's Schlub and Prasad references that were not presented to the examiner.

II. THERE ARE NO SETTLED EXPECTATIONS IN THE VALIDITY OF THE '625 PATENT

A. Patent Owner Lacks Settled Expectations

Patent Owner lacks settled expectations because the '625 patent was only recently issued, and is additionally related to other asserted patents that have also only recently been issued and which Petitioners have challenged in IPRs. Patent Owner has asserted the '625 patent and the following related patents: U.S. Pat. Nos. 8,350,763 ("763 patent"), 8,593,358 ("358 patent"), and 11,876,548 ("548 patent"). These patents belong to what Patent Owner calls the "Smart Antenna patent family." Request at 6-7. The '625 patent issued on July 13, 2021 and the '548 patent issued on January 16, 2024. Since the '625 and '548 patents were only recently issued, Patent Owner lacks settled expectations as to their validity. *Cambridge Industries USA, Inc. v. Applied Optoelectronics, Inc.*, IPR2025-00433,

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

Paper 11 at 2 (June 27, 2025) (“[M]ost of the challenged patents have not been in force for a significant period of time (issued in 2020, 2019, and 2019), and, accordingly, Patent Owner has not developed strong settled expectations that favor discretionary denial....”).

Although Patent Owner contends earlier-issued patents in the Smart Antenna patent family give rise to settled expectations in the validity of the ’625 patent, Patent Owner fails to address the fact that the claims of the ’625 patent are based in part on new matter first introduced in the specification of the ’625 patent (which is a continuation-in-part of the earlier applications in the family), and are thus not entitled to the priority date of the earlier applications in the family and present unique questions of validity. *See* Petition at 5-7. Nonetheless, the earlier-issued ’763 and ’358 patents claim subject matter that overlaps in part with the claims of the recently-issued ’625 and ’548 patents, including the use of MIMO and beam-switchable antenna arrays, antenna tuning using active elements and/or elements selected or interconnected using electronic control, and multiband antennas that operate simultaneously in a plurality of different bands. As a result, it would be an efficient use of Board resources to decide the merits of all four petitions, which further weighs against discretionary denial. *Embodiment, Inc. v. LifeNet Health*, IPR2025-00248, Paper 13 at 3 (Director June 26, 2025) (“Patent Owner has not developed strong settled expectations that favor discretionary denial as to the first

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

patent, and it is an efficient use of Board resources to address the related patent.”).

In particular, the IPR petitions relating to the '625 and '548 patents both assert grounds based on Schlub and the combination of Prasad, Seol, and Yin as rendering obvious at least the independent claims of the Challenged Patents. This is because, as explained in fuller detail below, the Challenged Patents claim well-known steerable antenna functionality that adjusts the beam radiation pattern of a single steerable antenna in order to avoid a user or structure detected by sensors. As described in each of the IPR petitions, each of Schlub and Prasad discloses said steerable antenna functionality. Thus, the consistent use of these core references makes analysis of one petition highly informative of the others.

B. Patent Owner’s First-Time Assertion and Lack of Commercialization Undercut Any Claim of Settled Expectations

As far as Petitioners are aware, Patent Owner has never “commercialized, asserted, marked, licensed, or otherwise applied in ... petitioner’s particular technology space” any of the twelve Challenged Patents, except through the lawsuit that it filed against Petitioners. *Shenzen Tuozy Technology Co., Ltd. v. Stratasys, Inc.*, IPR2025-00438, Paper 10 (Director July 17, 2025). Nor does Patent Owner contend it has ever sent a demand letter to anyone—certainly, Patent Owner did not tell Petitioner prior to the filing of this lawsuit in 2025 that it required a license to the Challenged Patents.

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

Yet as Patent Owner contends, the sole inventor on all twelve patents, Professor Theodore Rappaport, has “[f]or nearly three decades” “collaborated with [Petitioners] closely.” Request at 2. During this multi-decade collaboration, Prof. Rappaport encouraged Samsung to invest in his research, granting Samsung full access to that research in return. Samsung (along with the industry writ large) made significant, well-publicized investments in the accused technology and prominently participated in the relevant standard-setting efforts. *See* Ex. 1050. But in all that time, despite the parties’ close collaboration on development of the relevant standards, not once did Prof. Rappaport ever raise the possibility or suggestion that Petitioners’ products infringed any of the Challenged Patents.

As Patent Owner acknowledges, Prof. Rappaport’s work was widely published in technical papers and textbooks, including publications cited by Petitioners. Nor is it the case that an inventor’s academic publication of his work means, as Patent Owner suggests, that the industry has acquiesced to his work and that Samsung should somehow be precluded from challenging Prof. Rappaport’s patents now. Such an argument would chill industry-academic collaboration, forcing companies to shun participation in and contribution to academic research to avoid future preclusion arguments. Thus, as a result of Prof. Rappaport sitting on his patent rights, Petitioners had settled expectations that Prof. Rappaport’s published research was prior art that was available for use, that they did not infringe

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

the Challenged Patents, and that Prof. Rappaport would not enforce the Challenged Patents.

In addition, Patent Owner has asserted that the '625 patent and its related patents are infringed through Petitioners' use of the Wi-Fi, LTE and 5G wireless/cellular standards. Ex. 1013. As Patent Owner has made abundantly clear, Prof. Rappaport had significant involvement in the development of the 5G mmWave standard and claims significant contributions "in wireless communications [that] are widely recognized in the industry." Request at 3-4. Frankly, Prof. Rappaport is a known expert in the field. Yet despite Prof. Rappaport's long involvement in the industry and despite the fact that the earliest application in the Smart Antenna patent family was filed over fifteen years ago, he has never claimed that the '625 patent or any patents in its family are essential or even related to any of the wireless standards he now accuses of infringement.

III. EFFICIENCY AND CONSISTENCY STRONGLY WEIGH AGAINST DISCRETIONARY DENIAL

Patent Owner has asserted, and Petitioners have challenged, twelve patents across three different families directed to vastly different subject matter and technologies. As a result, the Board is a much more suitable venue for reviewing the Challenged Patents. *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217, Paper 9 (Director June 13, 2025) ("The large number and vast scope of the patents

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

asserted in the district court litigation (*id.* at 7) weighs against discretionary denial, as the Board is better suited to review a large number of patents involving diverse subject matter.”).

As discussed above, the ’625 patent and three other asserted patents belong to what Patent Owner calls the “Smart Antenna patent family.” Request at 6-7. Two of these patents (the ’763 and ’358 patents) are directed to wireless devices equipped with a single, tunable, multi-band antenna capable of transmission and reception on two or more frequency bands simultaneously, and Patent Owner has accused Samsung smartphones and tablets containing certain Qorvo and/or Qualcomm modules that allegedly support active tuning across multiple frequency bands, or ICs that work in substantially the same way. The other two (the ’625 and ’548 patents) are directed to sensor-based beamsteering in wireless devices equipped with a steerable antenna configured to transmit/receive mmWave signals in the frequency range of 10-500 GHz, and Patent Owner has accused Samsung 5G smartphones containing certain Qualcomm antenna modules allegedly capable of beam tracking and beamforming to avoid obstructions. Ex. 1013.

Patent Owner has also asserted five patents in what it calls the “Intelligent Wireless Broadband Relay patent family.” Request at 6-7. These patents claim repeater functionality operating on ultrawideband bandwidth and data rates. For this patent family, Patent Owner has accused devices that support Wi-Fi hotspot

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

functionality or provide 5G cellular data connectivity.

Finally, Patent Owner has asserted three patents in what it calls the “Network Monitoring patent family.” Request at 6-7. These patents claim the collection and use of information, including location information, of wireless devices. For this patent family, Patent Owner has accused Samsung’s Knox Suite, which is enterprise software running on a server that can track the locations of Samsung devices within an enterprise.

Thus, the twelve challenged patents are directed to three different families and four different technologies: (1) tunable antenna-equipped wireless devices configured for multi-band operation, (2) sensor-based beamsteering in wireless devices with steerable antennas operating at high-frequencies, (3) wireless repeater functionality using ultrawideband bandwidth, and (4) the collection and use of location information of devices.

Patent Owner nevertheless argues that it would be inefficient for the Board to “evaluate all 340 challenged claims across the Asserted Patents,” since Patent Owner claims it will “narrow the case to a small subset of those claims.” Request at 2-3. To the contrary, evaluating all of the challenged claims at once is a far more efficient use of the Board’s resources than resolving challenges to a small number of claims, which will inevitably lead to subsequent proceedings when Patent Owner asserts other claims in subsequent litigations, based on Patent Owner’s vague assertion it

**Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625**

will at some point narrow the case to a smaller number of claims. Further, denying institution based on the aggregate volume of petitions (which are entirely the result of Patent Owner's decision to assert a wide variety of patents in litigation) would merely incentivize patentees to flood the courts with complex litigation involving large numbers of patents. In addition, Patent Owner is currently asserting 131 claims in the parallel litigation, including nearly all independent claims of the twelve Challenged Patents. The claims that Patent Owner is not asserting are almost all short, dependent claims for which the Board will not need to expend much effort to adjudicate. In addition, the District Court involves significantly more prior art than those being raised in the IPR petitions, making it far more likely that the parties will expend less resources resolving the IPR petitions before the Board. Moreover, there is significant overlap between IPR petitions within each family of patents. As already discussed above, the IPR petitions challenging the '625 and '548 patent both assert Schlub and the combination of Prasad, Seol, and Yin, and the IPR petitions challenging all four patents in the Smart Antenna patent family address claim limitations relating to the use of MIMO and beam-switchable antenna arrays, antenna tuning using active elements and/or elements selected or interconnected using electronic control, and multiband antennas that operate simultaneously in a plurality of different bands. Thus, there are significant efficiencies in instituting the IPR petitions.

**Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625**

IV. THE EXAMINER ERRED IN ALLOWING THE '625 PATENT

The examiner erred in allowing the '625 patent by overlooking significant prior art. As discussed above, the '625 patent claims sensor-based beamsteering in wireless devices with steerable antennas operating at high-frequencies. In particular, the '625 patent claims the use of well-known sensors (such as cameras, microphones, gyroscopes, motion detectors, etc.) to detect the orientation of a wireless device relative to a user or structure, determining zones or spans of directions corresponding with the direction of the user and/or structure relative to a high frequency (*i.e.*, 10-500 GHz) steerable antenna in the wireless device, and adjusting the beam radiation patterns of the steerable antenna to radiate in the directions that do not correspond to the detected user/structure, avoid radiating in the directions that correspond to the detected user/structure.

During prosecution of the '625 patent, the examiner repeatedly found that the use of sensors to detect users/structures relative to a wireless device and antenna and the use of high frequency steerable antennas to direct beams of radiation away from users/structures were well-known. For example, the examiner rejected the claims multiple times as anticipated or rendered obvious by the Dorsey reference (Ex. 1010), which disclosed using sensors to detect a user or structure and using steerable antennas to direct beams of radiation in a direction that does not correspond to the direction of the detected user/structure. Ex. 1002, 131-148, 186-202; *see also*

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

Petition at 7-8. After the applicant appealed the examiner's final rejection, the Board ultimately determined that Dorsey is distinguishable because it "select[s] one of two or more separately located, steerable antennas" instead of "adjusting the beam radiation pattern of the one steerable antenna. Ex. 1002, 42-44.

Based on the appeal decision, the examiner allowed the claims without further rejections. Ex. 1002, 19-36. However, the examiner overlooked the significant body of prior art that expressly teaches adjusting the beam radiation pattern of a single steerable antenna—including to avoid directing radiation in the direction of a user or structure detected relative to the wireless device. This is a significant error in view of the fact that such steerable antenna were well known in the prior art. This prior art includes Schlub and Prasad, the two primary references raised in the petitions challenging the '548 and '625 patents, both of which indisputably describe adjusting the beam radiation pattern of a single antenna in order to avoid directing radiation in the direction of a user or structure. Ex. 1005, [0088] (disclosing that "the direction of the signal beam associated with the antenna" is "steered in response to [] proximity information" so that "if an external object is detected in one location, the array can be adjusted so that antenna signals are oriented in a different direction"); Ex. 1006, [0027] (disclosing an "antenna system" that "varies and controls the directional transmission & intensity of radiation on the user facing direction"), [0024] (disclosing that the antenna "can be adjusted in real time, making it possible to

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

reconfigure the structure during operation”). Schlub and Prasad were not before the examiner. In overlooking this art, the examiner committed material error, and “it is an appropriate use of Office resources to review the[se] potential error[s].” *Taiwan Semiconductor Manufacturing Co. v. Marlin Semiconductor Ltd.*, IPR2025-00847, Paper 11 (Director Sept. 3, 2025); *Tesla, Inc. v. Charge Fusion Techs., LLC*, IPR2025 00153, Paper 11 at 3 (June 12, 2025) (“Petitioner relies on Letendre to teach a ‘slide,’ and Patent Owner does not dispute that Letendre teaches a ‘slider.’”).

V. THE *FINTIV* FACTORS WEIGH AGAINST DISCRETIONARY DENIAL

The *Fintiv* factors heavily weigh against denial, including the fact that trial is scheduled to occur after the statutory deadline for the Board’s Final Written Decision in *all twelve* IPR proceedings, as well as Petitioners’ broad stipulation.

A. Factor 1: The District Court Has Not Indicated Its View on a Stay

Patent Owner attempts to predict how the District Court might rule on a potential post-institution stay motion. Request at 11-13. However, the Board declines to engage in such speculation when the district court has not expressed any position on the matter, instead treating this factor as neutral. *Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (P.T.A.B. May 13, 2020) (“We decline to infer, based on actions taken in different cases with different facts, how the District Court would rule should a stay be requested by the parties in the parallel case here.”).

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

Patent Owner concedes that the District Court would likely consider and potentially approve a stay if institution occurs across all twelve petitions. Request at 11, 17; *see also Cobblestone Wireless, LLC v. Cisco Systems, Inc.*, No. 2:23-cv-00454-JRG, 2024 WL 5047854 (E.D. Tex. Dec. 9, 2024) (granting stay following institution of IPR against asserted patent); *Emerging Automotive LLC v. Kia Corp. et al.*, No. 2:23-cv-00437-JRG, Dkt. 301 (E.D. Tex. Jun. 30, 2025) (granting stay following institution of IPRs and *ex parte* reexamination against all asserted patents). Indeed, the District Court has shown a recent willingness to grant stays even close to trial. *Stellar LLC v. Motorola Solutions, Inc. et al.*, No. 4:23-cv-750-SDJ, Dkt. 156 (E.D. Tex. Feb. 24, 2025) (imposing stay two weeks before trial, even while awaiting institution decisions on some asserted patents); *Emerging Automotive LLC v. Kia Corp. et al.*, No. 2:23-cv-00437-JRG, Dkt. 301 (E.D. Tex. Jun. 30, 2025) (approving stay three weeks pre-trial).

B. Factor 2: Trial Is Scheduled After the Final Written Decisions

As Patent Owner concedes, trial is currently scheduled for May 17, 2027. That is well after the April 6, 2027 statutory deadline for the Board's Final Written Decision in this proceeding. It is also after the statutory deadline for the FWD in the last-filed IPR, May 8, 2027. This factor therefore substantially weighs against denial. *Google LLC v. Cellular South, Inc.*, IPR2025-00875, Paper 10, (Director Oct. 17, 2025) ("[I]t is likely that a final written decision in this proceeding will issue

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

before the district court trial occurs, reducing the risk of duplication of efforts and inconsistent outcomes.”).

Patent Owner cites to a cherry-picked “median 655 days to trial for cases pending being between Jan. 1, 2022 and Oct. 22, 2025 before Judge Gilstrap.” Request at 17. But Patent Owner fails to heed Chief APJ Boalick’s instruction to use “median time-to-trial statistics for civil actions *in the district court.*” March 24, 2025 Guidance on USPTO’s Rescission of Vidal Memo. The Eastern District of Texas’s official time-to-trial statistics show that the most recent median time-to-trial for the district court is 24.5 months, which would place trial sometime in June 2027, after the current trial date. Ex. 1051. Patent Owner’s statistic also fails to consider the significant rise in cases before Judge Gilstrap over the past year.

C. Factor 3: The Parties’ Limited Investment In The District Court Litigation Weighs Against Discretionary Denial

This factor significantly weighs against discretionary denial. At the time of the Board’s institution decision, the parallel litigation will still be in its early stages with limited investment by the court and parties—including a lack of a *Markman* hearing.

While Patent Owner emphasizes that the parties have exchanged contentions (Request at 18), that is not what the Board considers to be significant investment. More relevant is the fact that the District Court’s *Markman* hearing is scheduled for

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

November 10, 2026, many months after the Board’s date for deciding institution. Ex. 2018 at 4. Indeed, by the institution decision date of April 7, 2026, the parties will not even have begun the process of claim construction by exchanging proposed terms. Fact discovery has only just begun and is not scheduled to be completed until December 28, 2026. Expert discovery will not be completed until February 1, 2027. These dates establish that there has been very little investment in the litigation. *Cf. Coretronic Corp. v. Maxell Ltd.*, IPR2025-00941, Paper 9 (Sept. 26, 2025) (finding meaningful investment where “the parties have participated in a *Markman* hearing, fact discovery was scheduled to close on August 21, 2025, and expert discovery will close soon.”).

The primary reason there has been little progress in the litigation so far, despite Judge Gilstrap’s propensity for aggressive scheduling, is because Petitioners were diligent in bringing these IPR petitions—all twelve petitions covering a wide swath of subject matter were filed between 3 to 5 months after Patent Owner filed its complaint.

D. Factor 4: Petitioners’ Broad Stipulation

Petitioners have filed a broad stipulation that closes the loophole that the Director identified in *Motorola. Motorola Sols.*, IPR2024-01205, Paper 19 at 4 (“Petitioner’s invalidity arguments in the district court are more expansive and include combinations of the prior art asserted in these proceedings with unpublished

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

system prior art, which Petitioner’s stipulation is not likely to moot.”).

Specifically, Petitioners stipulate that, if this petition is instituted (and not later denied institution or dismissed without a Final Written Decision), Petitioners will not assert in the parallel litigation:

(1) any grounds of invalidity arising under U.S.C. § 102 or § 103 involving only patent or printed publication prior art that could have reasonably been raised before the Board with respect to U.S. Pat. No. 11,063,625 (the ’625 patent), including the same grounds in the Petition (Paper 1); or

(2) any grounds of invalidity arising under U.S.C. § 102 or § 103 with respect to the ’625 patent that include U.S. Patent Publication No. 2011/0250928 A1 (“Schlub”), U.S. Patent No. 9,362,994 (“Seol”), U.S. Patent Publication No. 2013/0237272 A1 (“Prasad”), WIPO International Publication No. WO 2014/194455 A1 (“Yin”).

This stipulation includes a *Sotera* stipulation as well as a stipulation not to use any of the IPR prior art, even in combination with system art that could not be raised in the IPR. This stipulation therefore removes any overlap between the parallel litigation and this proceeding, and significantly weighs against denial. *Samsung Electronics Co., Ltd. v. Wilus Institute of Standards and Technology Inc.*, IPR2025-00933 *et al.*, Paper 11 (Director Oct. 10, 2025) (“Petitioner has filed a broad stipulation that reduces the concern of inconsistent outcomes or significant duplication of efforts.”).

Patent Owner nevertheless argues that Petitioners’ stipulation is “materially narrower” than the stipulation the Office has proposed in its Notice of Proposed

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

Rulemaking. However, Petitioners have already stated they would update their stipulation to be consistent with such proposed rules if and when they are made final.

Paper 7, 2 n.1.

E. Factor 5: Petitioners Being the District Court Defendants Does Not Outweigh the Factors Weighing Against Discretionary Denial

Petitioners are the defendants in the district court case. This factor does not outweigh the other factors discussed above.

F. Factor 6: The Merits of the Petition are Strong

Patent Owner largely does not dispute the substance of the petition. Instead, Patent Owner argues that the Petition “contradict[s]” a dictionary definition of the claim term “null,” because the dictionary refers to a “sharp minimum,” and the Petition does not expressly use the word “sharp.” Request at 19-20. Patent Owner’s argument exalts form over substance. The Petition explains that both Schlub and Prasad disclose nulls by minimizing radiation in the direction of a user or structure. Pet. 21-23, 62-63. The Petition also relies on Yin’s express disclosure of “null-forming technique” to “avoid” certain “directions.” *Id.*, 63; Ex. 1008, 6:6-9. Petitioners’ expert further confirms that Schlub, Prasad, and Yin disclose nulls in the radiation pattern consistent with the plain and ordinary meaning of the term. Ex. 1003, ¶¶101-103, 229-233. These arguments do not “contradict[]” the dictionary evidence, as Patent Owner suggests.

Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625

VI. CONCLUSION

Patent Owner has identified no legitimate basis for the Director to deny institution based on any discretionary factors. Institution should be granted.

**Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625**

DATED: January 6, 2026

Respectfully submitted,

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**Opposition To Request For Discretionary Denial
U.S. Patent No. 11,063,625**

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on January 6, 2026, true and correct copies of the foregoing document and supporting materials were served in its entirety at the following email addresses:

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