

IPR2026-00232

U.S. Patent No. 11,495,875

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

AQ CORPORATION,
Patent Owner.

Case No. IPR2026-00232

U.S. PATENT NO. 11,495,875

**PETITIONERS' RESPONSE IN OPPOSITION TO PATENT OWNER'S
DISCRETIONARY DENIAL BRIEF**

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction.....	1
II. “Relevant Considerations” Favor Institution.....	3
A. AQ Has Not Formed Settled Expectations.....	3
B. Samsung Has Identified All Real Parties In Interest.....	8
C. The Petition Appropriately Relies On Expert Testimony	10
III. The <i>Fintiv</i> Factors Favor Institution	11
A. Factor 1: Likelihood of Stay Weighs Against Denial or Is Neutral	11
B. Factor 2: The Texas Trial Date Is More Than Three Months After The Statutory Deadline, Which Weighs Strongly Against Denial	13
C. Factor 3: The Texas Case Is Nascent and Does Not Favor Denial	14
D. Factor 4: Samsung’s <i>Sotera</i> + Stipulation Weighs Against Denial	15
E. Factor 5: The Identity of Parties Does Not Support Denial.....	16
F. Factor 6: Additional Factors Do Not Support Denial	16
IV. §325(d) Does Not Support Denial.....	17
V. Conclusion	20

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Advanced Integrated Circuit Process LLC v. Taiwan Semiconductor Mfg. Co. Ltd.</i> , No. 2:25-cv-324, Dkt. 104 (E.D. Tex. Mar. 11, 2026).....	5
<i>Am. Airlines, Inc. v. Intell. Ventures I LLC</i> , IPR2025-00785, Paper 11, Director Decision (Aug. 29, 2025)	14
<i>Amgen, Inc. v. Bristol-Myers Squibb Co.</i> , IPR2025-00601, Paper 9 (July 24, 2025)	7
<i>Apple Inc. v. Apex Beam Techs. LLC</i> , IPR2025-00896, Paper 10, Director Decision (Sept. 3, 2025)	8, 14
<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (Mar. 20, 2020)	2, 11
<i>Berkshire Hathaway Energy Co. v. Birchtech Corp.</i> , IPR2025-00274 et al., Paper 23 (July 2, 2025)	3
<i>Cambridge Indus. USA, Inc. v. Applied Optoelectronics, Inc.</i> , IPR2025-00434, Paper No. 11, Director Decision (June 26, 2025)	16
<i>Carbyne, Inc. v. Tritech Software Sys.</i> , IPR2025-00959, Paper 11, Director Decision (Oct. 3, 2025)	20
<i>Corning Optical Commc'ns RF v. PPC Broadband, Inc.</i> , IPR2014-00440, Paper 68 (Aug. 18, 2015)	9
<i>Dabico Airport Sols., Inc. v. AXA Power APS</i> , IPR2025-00408, Paper 21 (June 18, 2025)	7
<i>FreightCar Am., Inc. v. Nat'l Steel Car Ltd.</i> , IPR2025-01046, Paper 20, Director Decision (Oct. 10, 2025)	14
<i>Gonzalez v. Infostream Grp., Inc.</i> , 2015 WL 12910770 (E.D. Tex. Mar. 3, 2015)	13

IPR2026-00232

U.S. Patent No. 11,495,875

<i>Kahoot! AS v. Interstellar Inc.,</i> IPR2025-00696, Paper 12 (July 31, 2025)	7
<i>Motorola Solutions, Inc. v. Stellar, LLC,</i> IPR2024-01205, Paper 19 (Mar. 25, 2025)	16
<i>OnePlus Tech. (Shenzhen) Co. v. Pantech Corp.,</i> IPR2025-00756, Paper 11 (Oct. 3, 2025)	3
<i>Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.,</i> No. 2:13-cv-213, 2015 WL 627887 (E.D. Tex. Jan. 29, 2015)	11, 13
<i>Resonant Sys., Inc. v. Nintendo Co., Ltd.,</i> No. 2:25-CV-90-JRG (E.D. Tex. July 28, 2025)	3, 12, 13
<i>Samsung Elecs. Co. v. Wilus Institute of Standards,</i> IPR2025-00933, Paper No. 11, Director Decision (Oct. 10, 2025)	16
<i>Samsung Electronics Co., Ltd. v. Wilus Institute of Standards,</i> IPR2025-00935, Paper 12 (Sept. 26, 2025)	3, 20
<i>Shenzen Tuozy Tech. Co. v. Stratasys, Inc.,</i> IPR2025-00438 et al., Paper 10 (July 17, 2025)	3
<i>Snap v. SRK Tech.,</i> IPR2020-00820, Paper 15 (Oct. 21, 2020)	2
<i>Sotera Wireless, Inc. v. Masimo Corp.,</i> IPR2020-01019, Paper 12 (Dec. 1, 2020)	15, 16
<i>Straumann USA, LLC v. Smart Denture Conversations, LLC,</i> IPR2025-00956, Paper 11 (Sept. 19, 2025)	3
<i>Suzhou Mojawa Intelligent Elec. Co., Ltd. v. Shenzhen Shokz Co.,</i> <i>Ltd.,</i> IPR2025-00842, Paper 14, Director Decision (Sept. 19, 2025)	8
<i>Tesla, Inc. v. Intell. Ventures II LLC,</i> IPR2025-00217, Paper 9, Director Decision (June 13, 2025)	16

IPR2026-00232

U.S. Patent No. 11,495,875

Trover Group, Inc. v. Dedicated Micros USA,

No. 2:13-CV-1047, 2015 WL 1069179 (E.D. Tex. Mar. 11, 2015).....11, 13

Yangtze Memory Techs. Co., Ltd. v. Micron Tech, Inc.,

IPR2025-00501, Paper 10 (Aug. 14, 2025).....7

TABLE OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 11,495,875 (“’875 Patent”)
1002	Declaration of David K. Choi, Ph.D
1003	<i>Curriculum Vitae</i> of David K. Choi, Ph.D
1004	File History of U.S. 11,495,875 (App. No. 17/864,078)
1005	PCT Publication 2017/175886 (“SeongPCT”)
1006	Certified English Translation of PCT Publication 2017/175886 (“Seong”)
1007	U.S. Pat. App. Pub. No. 2019/0109373 (“Ahn”)
1008	U.S. Patent No. 10,269,005 (“005Lee”)
1009	Korean Patent Publication 10-2017-0093670 (“ChoKPP”)
1010	Certified English Translation of Korean Patent Publication 10-2017-0093670 (“Cho”)
1011	U.S. Pat. App. Pub. No. 2017/0228721 (“721Lee”)
1012	U.S. Pat. App. Pub. 2018/0198209 (“Kang”)
1013	Comparison of the specifications of U.S. Patent No. 11,495,875 (“’875 Patent”) and U.S. Pat. App. Pub. 2018/0198209 (“Kang”)
1014	U.S. Pat. App. Pub. No. 2010/0090824 (“Rowell”)
1015	Exhibit B to Patent Owner’s Disclosure of Asserted Claims and Infringement Contentions in <i>AQ Corporation v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:25-cv-01012-JRG (EDTX)
1016	William H. Hayt, Jr. and Jack E. Kemmerly, <i>Engineering Circuit Analysis</i> (1993)

Exhibit No.	Description
1017	Mohamed M. El Rayes, et al., “A Review on Wireless Power Transfer,” IJETT Vol. 40. No. 5 (2016)
1018	Sung-Gu Kang, et al., “Near-Field Communication in Biomedical Applications,” Sensors (2021)
1019	Zebra, RFID Inlay Placement/Power Guidelines (2014)
1020	Constantine A. Balanis, “The Evolution of Antenna Technology,” IEEE Antenna & Propagation Magazine (2024)
1021	G. Stojanovic and Lj. Zivanov, “Comparison of Optimal Design of Different Spiral Inductors,” MIEL Vol. 2 (2004)
1022	Chandrasekharan Nataraj, et al., “General Analysis of Resonance Coupled Wireless Power Transfer (WPT) Using Inductive Coils,” Technical Gazette 25, 3 (2018).
1023	Zachariah Peterson, “How to Design a Printed Circuit Board in 10 Easy Steps,” (2025), https://resources.altium.com/p/10-easy-steps-comprehensively-designing-circuit-board-altium-designer
1024	“The Discovery of Radio Waves – 1888,” Spark Museum, http://www.sparkmuseum.com/BOOK_HERTZ.HTM
1025	“How Do Checkpoint Labels and Hard Tags work?,” Loss Prevention Systems, https://www.losspreventionsystems.com/checkpoint-labels-hard-tags-work/
1026	“Qi: Mobile Charging Empowered,” Wireless Power Consortium, https://www.wirelesspowerconsortium.com/standards/qi-wireless-charging/
1027	“Wireless Charging,” NFC Forum, https://nfc-forum.org/build/specifications/wireless-charging/

Exhibit No.	Description
1028	“Qi Wireless Charging,” Lenhardt, https://ib-lenhardt.com/kb/qi-wireless-charging
1029	U.S. Patent No. 649,621
1030	U.S. Patent No. 1,119,732
1031	U.S. Patent No. 4,937,585
1032	Chinese Patent No. CN209266128
1033	Korean Patent No. KR20180113064
1034	PCT WO 2019/070090
1035	Korean Patent No. KR101832344
1036	U.S. Patent No. 4,313,152
1037	U.S. Patent No. 1,563,731
1038	Performance Specification: MIL-PRF-55110F (1993)
1039	Comparison of the ’587 application’s claim to the ’875 patent’s 20 claims
1040	Letter from A. Janes to N. Lenning, March 5, 2026

I. INTRODUCTION

This IPR presents an exceptionally strong case for institution. In November 2022, less than three and a half years before the Petition was filed, Patent No. 11,495,875 (“’875 patent”) issued with no Examiner rejections. But what the Examiner did not know was that Patent Owner (“PO”) failed to disclose PO’s own Publication No. 2018/0198209 to Kang and its resulting Patent No. 10,547,112, which, apart from one column of added disclosure and some different figures, share an *identical specification* with the ’875 patent. Pet. at 10-11; Ex1013. The Examiner also did not know that ’875 patent named inventor Kyoung Jun Choi described Kang as disclosing the only claim limitation that PO now argues is not taught by the prior art: electrically connecting antenna coils in “parallel.” Ex2001, 149. The Petition relies on Kang and five other undisclosed, invalidating prior art references, four of which also expressly teach parallel electrical connection. This is precisely the type of challenge the IPR system was designed to accommodate.

First, the relevant considerations favor institution. PO has no settled expectations in the challenged claims, which had been in force for less than three and a half years before this IPR, well short of the six-year threshold in PO’s cited cases. Knowing this, PO argues that it gave Petitioners notice of the ’875 patent’s parent publication (U.S. 2021/0159587, which later issued as U.S. 11,303,011, a parent of the ’875 patent) before it filed suit in October 2025, but PO concedes

Petitioners' alleged awareness was of a *pre-amendment* application publication of a different patent's application. PO cancelled the publication's only claim and replaced it with claims of fundamentally different scope—transforming, in three amendments, a flat flexible PCB with coil antennas into a concentric-ring, dual-surface module with NFC extension lines and radially-extending gaps. Ex2001, 294-295; Ex1004, 1024-27, 1060-63, 1076-80. PO offers no evidence of licensing, commercialization, or industry reliance that could justify settled expectations. Further, PO's claim that Samsung Construction & Trading Corporation ("C&T"), an entity that PO did not sue and an entity that has no input into these IPR proceedings, is nevertheless a real party in interest is meritless. And PO's argument that Petitioners improperly rely on expert testimony for the parallel electrical connection limitation mischaracterizes the Petition and ignores the teachings of its references.

Second, *Fintiv* favors institution. Petitioners filed the Petition before answering PO's complaint in the Eastern District of Texas—prompt, diligent filing that weighs heavily against denial. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 11-12 (Mar. 20, 2020) (precedential); *Snap v. SRK Tech.*, IPR2020-00820, Paper 15 at 12–13 (Oct. 21, 2020). The anticipated July 2027 Final Written Decision predates the currently scheduled November 2027 Texas trial by over three months. Petitioners' broad *Sotera+* stipulation precludes duplicative validity arguments. And

PO's assertion that a stay is unlikely is contradicted by Judge Gilstrap's recent grant of a stay based on materially similar facts. *Resonant Sys., Inc. v. Nintendo Co., Ltd.*, No. 2:25-CV-90-JRG (E.D. Tex. July 28, 2025).

Third, PO's claim that Petitioners' references are cumulative of the file history art under § 325(d) as not teaching parallel electrical connection fails for the same reason as PO's expert-reliance argument: four of Petitioners' references expressly teach this, including Kang as PO's named inventor admits. Ex2001, 149.

II. “RELEVANT CONSIDERATIONS” FAVOR INSTITUTION

A. AQ Has Not Formed Settled Expectations

“Early challenges to patents favor robust, predictable patent rights and weigh against discretionary denial.” *Straumann USA, LLC v. Smart Denture Conversations, LLC*, IPR2025-00956, Paper 11 at 2 (Sept. 19, 2025). Challenges to patent claims that have been in force for less than six years are “[e]arly challenges” because patent owners typically have not developed settled expectations by then. *OnePlus Tech. (Shenzhen) Co. v. Pantech Corp.*, IPR2025-00756, Paper 11 at 2 (Oct. 3, 2025); *Berkshire Hathaway Energy Co. v. Birchtech Corp.*, IPR2025-00274 et al., Paper 23 at 3 (July 2, 2025); *Shenzen Tuozechu Tech. Co. v. Stratasys, Inc.*, IPR2025-00438 et al., Paper 10 at 2 (July 17, 2025). In *Samsung Electronics Co., Ltd. v. Wilus Institute of Standards*, the PTAB found a 2021 patent “ha[d] not been

in force for a significant period of time” and thus “Patent Owner has not developed strong settled expectations.” IPR2025-00935, Paper 12 at 2-3 (Sept. 26, 2025). The ’875 patent issued on November 8, 2022 and its claims were in force for less than three and a half years at the time of the Petition. No settled expectations have arisen.

Attempting to resist this conclusion, PO claims it “provided Petitioner[s] with the ’875 Patent’s parent publication on November 8, 2021” and thus argues that Petitioners “have been aware of the publication and prosecution history leading to the ’875 Patent for almost five years.” PO’s Discretionary Denial Brief (“DD”) at 1, 3-5. PO cites an email that an ’875 patent inventor, Mr. Choi, sent on November 8, 2021. Ex2001, 1, 149. That shows only that PO sent Petitioners the *pre-amendment* publication of a different patent’s application (No. 2021/0159587). Ex2001, 149, 219-95. That ’587 publication contains none of the ’875 patent’s claims. It contains only one claim, which PO canceled in a November 5, 2021 preliminary amendment that PO *did not send* to Petitioners. That amendment added 6 new and materially different claims. Ex1004, 1024-27. The ’011 patent’s claims were amended *three times* since the ’587 publication and the ’875 patent has different claims. *Id.* (11/5/21 amendment); *id.*, 1060-63 (2/16/22 amendment); *id.*, 1076-80 (3/4/22 amendment).

“A Defendant’s knowledge of a publication or application that does not correspond to a patent is insufficient to support an allegation that the defendant knew

of that patent.” *Advanced Integrated Circuit Process LLC v. Taiwan Semiconductor Mfg. Co. Ltd.*, No. 2:25-cv-324, Dkt. 104 at *7 (E.D. Tex. Mar. 11, 2026). Notice of the ’587 application cannot substitute for actual notice of the ’875 patent’s claims. As shown below—language deleted from ’587 publication claim in red; language added to ’875 patent claims in green—claim 1 of the ’587 publication recites a flat “flexible PCB comprising a sheet-like body” with three coil antennas arranged between “first and second edges,” a “magnetic sheet,” and a requirement that “no electric connection is formed between any two coil antennas.” Ex2001, 294–295.

US 2021/0159587 A1	'875 patent
<p>1. A smartphone antenna module comprising: a flexible PCB comprising a sheet-like body with a first major surface and a second major surface facing away from the first major surface; the flexible PCB further comprising a first coil antenna, a second coil antenna and a third coil antenna formed in the sheet-like body between the first and second major surfaces; the first second and third coil antennas are located between a first and second edges of the flexible PCB the first coil antenna located between the first and second edges; the third coil antenna located between the first edge and the first coil antenna; the second coil antenna surrounding the first coil antenna when viewed in a thickness direction of the flexible PCB; the third coil antenna not overlapping the first coil antenna when viewed in the thickness direction,</p>	<p>1. A smartphone antenna module comprising: a substrate having a first major surface and a second major surface facing away from the first major surface; a first antenna pattern formed on the first major surface and comprising an inner coil and an outer coil surrounding the inner coil; a second antenna pattern formed on the second major surface and comprising an inner antenna pattern, and an outer antenna pattern; the inner antenna pattern comprising a plurality of concentric circular lines and defining a radially-extending inner gap into which the plurality of concentric circular lines of the inner antenna pattern does not extend, wherein at least part of the concentric circular lines of the inner antenna pattern overlaps the inner coil formed on the first major surface and is connected to the inner coil through vias; the outer antenna pattern comprising a plurality of concentric circular lines and defining a radially-extending outer gap into which the plurality of concentric circular lines of the outer antenna pattern does not extend, wherein at least part of the concentric circular lines of the outer antenna pattern overlaps the outer coil formed on the first major surface and is connected to the outer coil through vias; wherein at least part of the concentric circular lines of the outer antenna pattern generally surround at least part of the concentric circular lines of the inner antenna pattern,</p>

US 2021/0159587 A1	'875 patent
<p>and a magnetic sheet attached to flexible PCB that overlaps entire portion of the first coil antenna, wherein no electric connection is formed between any two coil antennas of the first, second and third coil antennas in the flexible PCB,</p> <p>wherein the first coil antenna comprises an inner coil and an outer coil electrically connected to each other in parallel,</p> <p>wherein the inner coil has a wire width smaller than that of the outer coil,</p> <p>wherein the inner coil has the number of turns is greater than that of the outer coil,</p> <p>wherein the inner coil has a coil width is greater than that of the outer coil</p>	<p>wherein the radially-extending outer gap and the radially-extending inner gap are connected and aligned in a direction;</p> <p>an inner extension line formed on the second major surface and extending through the radially-extending outer gap and further through at least part of the radially-extending inner gap;</p> <p>an outer extension line formed on the second major surface and extending through at least part of the radially-extending outer gap;</p> <p>two additional extension lines formed on the second major surface and extending through both the radially-extending inner gap and the radially-extending outer gap;</p> <p>wherein the inner extension line, the outer extension line and the two additional extension lines are extending generally in parallel; and</p> <p>wherein each of the inner extension line, the outer extension line, and the two additional extension lines formed on the second major surface comprises a portion that overlaps the outer coil formed on the first major surface.</p>

As shown above, '875 patent claim 1 bears virtually no resemblance to the '587 application's single claim: it recites a concentric-ring, dual-surface substrate architecture with inner and outer antenna patterns comprising concentric circular lines, C-shaped lines forming radially-extending gaps, and inner, outer and additional extension lines running through those gaps in parallel—none of which appeared in the '587 application's canceled claim. Ex2003, 2-3. A comparison of the '587 application's claim to the '875 patent's 20 claims is attached as Ex1039.

Instead, PO's evidence shows that Mr. Choi failed to disclose to the PTO the Petition's Kang reference (on which he is also a named inventor) despite acknowledging it was material. On November 8, 2021, Mr. Choi described the Kang patent as disclosing a "[t]echnical section related to parallel structure antenna,"

which Mr. Choi highlighted. Ex2001, 149, 214 (highlighted Kang patent disclosing “coil antennas that are parallel connected”). Remarkably, PO now contends this same disclosure in the Kang publication (Ex1012 ¶260) does not disclose the claimed parallel electrical connection of coils. DD at 8-9, 12-15.¹

AQ’s settled-expectation cases are inapt. At best, they stand for the proposition that settled expectations may form when the challenged patent has been “in force” for six or more years. *Dabico Airport Sols., Inc. v. AXA Power APS*, IPR2025-00408, Paper 21 at 2 (June 18, 2025) (patent “in force for almost eight years”); *Yangtze Memory Techs. Co., Ltd. v. Micron Tech, Inc.*, IPR2025-00501, Paper 10 at 2 (Aug. 14, 2025) (patents “in force for approximately ten, six, and six years”); *Kahoot! AS v. Interstellar Inc.*, IPR2025-00696, Paper 12 at 2 (July 31, 2025) (patent “in force for over six years”); *Amgen, Inc. v. Bristol-Myers Squibb Co.*, IPR2025-00601, Paper 9 at 2-3 (July 24, 2025) (no settled expectations for patent “in force” for three years, but settled expectations for patents “in force for seven and six years”). The ’875 patent’s claims had been “in force” for less than three and a half years before the Petition. The Director has consistently recognized that young patents, such as the ’875 patent, do not give rise to settled expectations

¹ Contrary to PO’s argument, a certified translation of the email does not include an explanation regarding the ’587 publication. Ex2001, 149.

favoring denial. *See Suzhou Mojawa Intelligent Elec. Co., Ltd. v. Shenzhen Shokz Co., Ltd.*, IPR2025-00842, Paper 14, Director Decision at 2 (Sept. 19, 2025) (patents issued in 2021 and 2022 had “not been in force for a significant period of time” and patent owner had “not developed strong settled expectations”); *Apple Inc. v. Apex Beam Techs. LLC*, IPR2025-00896, Paper 10, Director Decision at 3 (Sept. 3, 2025) (no settled expectations for patents in force for “two, three, or four years”).

PO has no other basis for settled expectations. Before suing Petitioners, PO had not previously asserted the ’875 patent in litigation, nor has PO alleged to have licensed or commercialized it. *AQ v. Samsung Elecs. Co., Ltd. et al.*, No. 2:25-cv-01012-JRG, Dkt. 1, ¶16 (EDTX Oct. 7, 2025) (“[N]o patented articles have ever been produced requiring marking.”). Nor has PO presented any evidence that the ’875 patent’s claims have been widely adopted or otherwise recognized. PO claims to have “reasonably relied on the absence of any challenge” to the ’875 patent’s claims’ validity, but offers no evidence or explanation supporting that claim.

B. Samsung Has Identified All Real Parties In Interest

Petitioners properly identified the only real parties in interest: Samsung Electronics Co., Ltd. (“SEC”) and Samsung Electronics America, Inc. (“SEA”). These are the same parties PO sued in Texas. PO argues Petitioners failed to disclose Samsung C&T on the sole basis that C&T purportedly has an “opportunity to

control” this IPR proceeding. DD at 6. PO misapplies the law and is wrong on the facts.

As PO’s *Corning* case recognizes, RPIs are those that “possessed effective control over the IPR proceeding.” *Corning Optical Commc’ns RF v. PPC Broadband, Inc.*, IPR2014-00440, Paper 68 at 15 (Aug. 18, 2015). In *Corning*, a parent entity and a petitioner shared the same line of business and the same officers, the parent retained and paid outside counsel, the parent’s in-house counsel served as “case manager” and directed filings, and the entities were “so intertwined that it is difficult ... to determine precisely where one ends and another begins.” *Id.* at 18. Not so here. Petitioner SEC is a recognized, innovative global electronics company and Petitioner SEA is one of its U.S. subsidiaries. C&T operates in wholly different businesses: construction, resorts, and fashion. In fact, the C&T stands for Construction & Trading Corporation. C&T has no interest in the challenged patent, and did not fund, direct, participate, or have any influence over this proceeding.

PO cites two financial disclosures describing C&T as a “related party,” and argues it is not an “independent entity whose interests are wholly disconnected from those of Samsung Electronics.” DD at 6-8 (citing Ex2004, Ex2005). But this is not the test: the law requires “effective control over the IPR proceeding,” which PO has not alleged and cannot show. *Corning*, IPR2014-00440, Paper 68 at 15.

C. The Petition Appropriately Relies On Expert Testimony

The Petition presents three invalidity grounds under 35 U.S.C. § 103 and relies on Dr. David Choi to support and further explain why a POSA would have found it obvious to combine the petitioned references. PO asserts the Petition “turns almost entirely on expert testimony” because “[n]one of the cited references” disclose the claimed parallel connection element. PO misrepresents the Petition and the prior art.

To be clear, contrary to PO’s sweeping misstatements, no fewer than four of the petitioned references expressly teach electrically connecting coils in parallel. As explained above, ’875 patent named inventor Mr. Choi admitted that Kang teaches this limitation. Kang teaches that “coils may be connected in parallel” and Kang depicts how. Ex1012, ¶¶214, 217, Fig. 24B; Ex2001, 149. Similarly, Ahn (U.S. Publication No. 2019/0109373) teaches that “first and second spiral wirings may be connected to each other in series or in parallel” (Ex1007, ¶¶113, 120), 721Lee (U.S. Publication No. 2017/0228721) teaches that “two coils ... may be connected in parallel” (Ex1011, ¶¶152, 134, 158-59), and Cho (Korean Patent Publication 10-2017-0093670) teaches that a “first coil portion” and a “second coil portion” “may be connected in series or in parallel” (Ex1010, ¶¶90, 91).

The Petition does not rely on Dr. Choi to “stitch together unrelated disclosures,” as PO claims. DD, 8. Instead, Dr. Choi provides the type of expert

analysis that routinely supports IPR petitions—explaining why a POSA would have combined the prior art’s express teachings and found it obvious to do so.

III. THE *FINTIV* FACTORS FAVOR INSTITUTION

The *Fintiv* factors favor institution. *Fintiv*, IPR2020-00019, Paper 11 at 5-6.

A. Factor 1: Likelihood of Stay Weighs Against Denial or Is Neutral

Petitioners filed the Petition before answering PO’s complaint in Texas, and then promptly moved to stay the Texas case. As PO acknowledges, the Board will not speculate on any stay, rendering Factor 1 at most neutral. DD at 9-10.

There is no support for PO’s claim that Factor 1 may favor denial. *Id.* As *Fintiv* explains, the possibility for a post-institution stay weighs against discretionary denial, even in cases that were not stayed pre-institution. *See Fintiv*, IPR2020-00019, Paper 11 at 6-7 (denial of pre-institution stay without prejudice “has usually weighed against exercising authority to deny institution under NHK”).

PO argues that a stay is unlikely, contending that Judge Gilstrap “normally, if not almost exclusively, denies motions to stay pending PTAB decisions.” DD at 9. PO cites the “majority rule” and “universal practice” in the Eastern District of Texas that courts “uniformly” deny stays *before* the PTAB has acted on a petition, relying on *Trover Group, Inc. v. Dedicated Micros USA*, No. 2:13-CV-1047, 2015 WL 1069179, at *6 (E.D. Tex. Mar. 11, 2015) and *Rembrandt Wireless Techs., LP v.*

Samsung Elecs. Co., No. 2:13-cv-213, 2015 WL 627887 (E.D. Tex. Jan. 29, 2015).

PO further predicts that Judge Gilstrap will decide Petitioners' motion about four months before the institution deadline and, based on these cases, will deny it.

PO's sweeping characterization of Judge Gilstrap's stay practice is refuted by Judge Gilstrap's own recent rulings. In *Resonant Systems, Inc. v. Nintendo Co., Ltd.*, No. 2:25-CV-90 (E.D. Tex. July 28, 2025), Judge Gilstrap granted a stay pending IPR in circumstances materially similar to this case. In *Nintendo*, like here, the defendant filed its IPR petition before the parties and the court had invested resources in discovery and claim construction. *Id.* at 4. Judge Gilstrap found the defendant's promptness "supports this Motion in a material way," observing that "[t]oo often, Defendants use the IPR process strategically and delay seeking it such that the PTAB's decision will not issue until the Court and parties have spent many hours and significant resources that could have been saved if the Defendants had acted more promptly." *Id.* All three stay factors, issue simplification, stage of litigation, and prejudice, weighed in favor of a stay. *Id.* at 3-6.

The parallels between *Nintendo* and this case are numerous. Like *Nintendo*, here, Petitioners filed the Petition before answering in the Texas action—showing precisely the type of diligence Judge Gilstrap praised. Like *Nintendo*, the district court case remains nascent: no significant discovery or claim construction has

occurred. And like *Nintendo*, the anticipated FWD date precedes the trial date—here, by over three months.

AQ’s reliance on *Trover*, *Rembrandt Wireless*, and *Gonzalez* is misplaced. In *Trover*, the defendants waited nearly a year before filing their IPR petition, just five days before the § 315(b) deadline, and the court found this “pattern of delay” cut “strongly against a stay” in a case where claim construction was complete and trial was imminent. 2015 WL 1069179, at *3–4. In *Rembrandt Wireless*, trial was a few weeks away, discovery was closed, and the PTAB had *denied* institution on the very claims to be asserted. 2015 WL 627887, at *1–2. And *Gonzalez v. Infostream Grp., Inc.* involved a denial of stay motion based on a CBM, not IPR. No. 2:14-CV-906-JRG-RSP, 2015 WL 12910770, at *1 (E.D. Tex. Mar. 3, 2015). Not so here.

All three of PO’s cases share a final deficiency: they were decided in early 2015, years before *Fintiv* and the Process Memorandum. Judge Gilstrap himself cautioned that “parties are ill advised to see trends and patterns here that might prevail in future cases under dissimilar facts and involving disparate conduct.” *Nintendo*, slip op. at 5 n.2. AQ is doing exactly what Judge Gilstrap warned against. This factor favors institution or is, at least, neutral.

B. Factor 2: The Texas Trial Date Is More Than Three Months After The Statutory Deadline, Which Weighs Strongly Against Denial

Factor 2 weighs strongly against discretionary denial. The July 2027 FWD deadline predates the November 2027 Texas trial by more than three months. This favors institution. *FreightCar Am., Inc. v. Nat’l Steel Car Ltd.*, IPR2025-01046, Paper 20, Director Decision at 2 (Oct. 10, 2025); *Am. Airlines, Inc. v. Intell. Ventures I LLC*, IPR2025-00785, Paper 11, Director Decision at 2-3 (Aug. 29, 2025).

AQ contends this factor is “neutral” because the Texas trial date is “around the same time as the projected statutory deadline.” DD at 10 (quoting *Fintiv*, Paper 15 at 9). But more than three months is not “at or around the same time” as the trial—it is substantially before. Director decisions have recognized that even a far smaller margin favors institution. *See Apple Inc.*, IPR2025-00896, Paper 10, Director Decision at 2 (denying discretionary denial, finding a FWD projected to issue just three weeks before trial sufficient to reduce concerns of inconsistent outcomes). Combined with Petitioners’ broad *Sotera+* stipulation, this timing allows the Board’s decision to inform and streamline the Texas proceedings well in advance of trial.

C. Factor 3: The Texas Case Is Nascent and Does Not Favor Denial

Factor 3 weighs strongly against discretionary denial because the Texas case is nascent. PO argues that proceeding in parallel with the Texas case is “an inefficient use of ... time and resources.” DD at 10. But PO’s argument rests on speculation about where the case will be—not where it is now. The Texas case remains in its

earliest stages: the Markman hearing is not scheduled until May 12, 2027—more than a year away—and the close of fact discovery is set for June 14, 2027, over thirteen months from now. No depositions, expert reports, or summary judgment motions have been performed. And Petitioner has moved to stay. Under *Sotera*, the relevant inquiry is the investment to date, which here has been minimal. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 16 (Dec. 1, 2020) (precedential). And Samsung’s *Sotera+* stipulation further ensures no duplication of invalidity arguments. This factor weighs against denial.

D. Factor 4: Samsung’s *Sotera+* Stipulation Weighs Against Denial

Factor 4 weighs strongly against discretionary denial because there is no overlap between the IPR and the Texas case. Petitioners’ *Sotera+* stipulation (which will take effect upon institution) goes beyond a standard *Sotera* stipulation, which commits the petitioner not to pursue in district court the same grounds raised or that reasonably could have been raised in the IPR. In its *Sotera+* stipulation, Petitioner further agrees not to pursue any ground based on a combination of system prior art and the references asserted as part of a ground raised in the instituted IPR. This expanded commitment “ensures that an [IPR] is a ‘true alternative’ to the district court proceeding” and “weighs strongly in favor of not exercising discretion to deny institution.” *Sotera Wireless, Inc.*, IPR2020-01019, Paper 12 at 18-19 (precedential).

PO contends Samsung's *Sotera+* stipulation "is not dispositive," citing *Motorola Sols., Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19 at 4 (Mar. 25, 2025). DD at 11. But in *Motorola Sols.*, multiple *Fintiv* factors independently favored denial due to "substantial investment in the district court proceeding." IPR2024-01205, Paper 19 at 4. Here, no such investment exists. The Texas case is nascent, and Petitioners' stipulation eliminates the primary concern underlying discretionary denial—the risk of duplicative proceedings and inconsistent outcomes. Multiple Director precedents have treated *Sotera+* stipulation as favoring institution. *See, e.g., Samsung Elecs. Co. v. Wilus Institute of Standards*, IPR2025-00933, Paper No. 11, Director Decision at 3 (Oct. 10, 2025); *Tesla, Inc. v. Intell. Ventures II LLC*, IPR2025-00217, Paper 9, Director Decision at 2 (June 13, 2025).

E. Factor 5: The Identity of Parties Does Not Support Denial

PO asserts that Factor 5 favors discretionary denial because the parties in this IPR are the same as those in the district court litigation. DD at 11. However, the identity of parties is only one factor in the analysis and is not dispositive. *Cambridge Indus. USA, Inc. v. Applied Optoelectronics, Inc.*, IPR2025-00434, Paper No. 11, Director Decision (June 26, 2025). This factor is, if anything, neutral, and underscores that PO's real-party-in-interest argument is meritless.

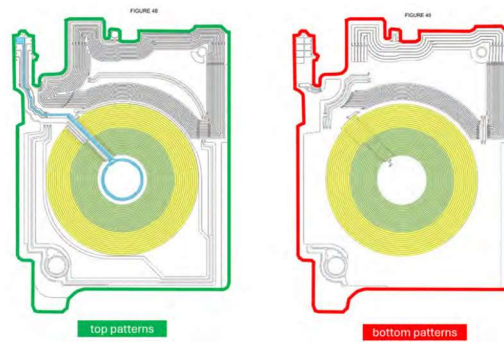
F. Factor 6: Additional Factors Do Not Support Denial

PO makes no arguments specific to Factor 6. Rather, PO refers back to its arguments in Sections A and C regarding settled expectations, RPI identification, expert reliance, and cumulativeness. But for the reasons stated in those sections, those arguments are meritless and do not support discretionary denial.

IV. §325(d) DOES NOT SUPPORT DENIAL

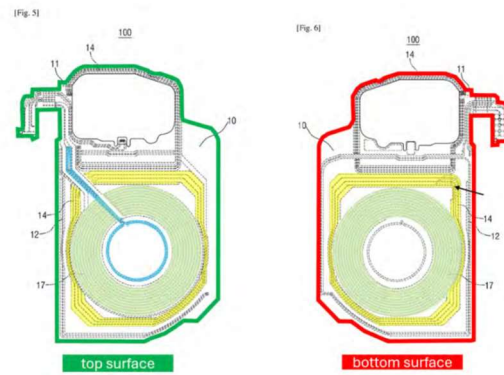
PO wrongly argues that Petitioners' grounds rely on references that are cumulative of the references considered during prosecution. PO's primary basis for this flawed argument is to rehash its Section A.iii argument for expert testimony—namely, that the Petition lacks any references that disclose a parallel electrical connection of coils. But as explained above, that is wrong. PO mischaracterizes the petitioned references and grounds, which are indisputably stronger than what the Examiner considered. Notably, a named inventor of the '875 patent admitted that Kang, a petitioned reference with a nearly identical specification to the '875 patent, discloses parallel electrical connection of coils. Ex2001, 149. PO however withheld Kang during prosecution, and Kang was not considered by the Examiner.

Petitioners' invalidity grounds are non-cumulative and compelling. The '875 patent's claims cover smartphone antenna modules having concentric rings of antenna patterns on both sides of a substrate. Ex1001, claims, Figs. 48-49:

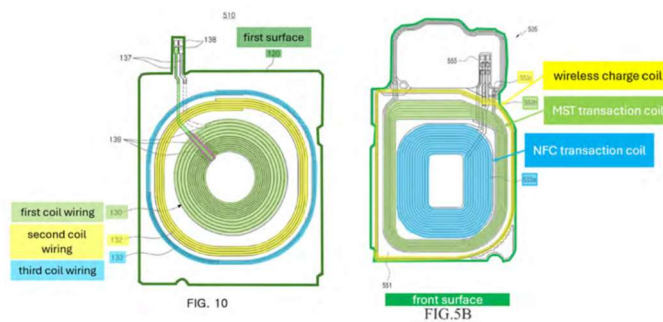


Ex1001, Figs. 48-49.

Petitioners' primary references depict remarkably similar arrangements:



Pet. at 2 (depicting Seong, Ex1006, Figs. 5-6).



Pet. at 3 (depicting Ahn, Ex1007, Fig. 10; 005Lee, Ex1008, Fig. 5B).

Ground 1 (Seong + Kang + Cho) combines Seong's NFC and wireless-charging antenna module with Kang's express teaching that concentric-circle coils that "may be connected in parallel" (Ex1012, ¶¶214, 217), and Cho, which independently teaches parallel connection (Ex1010, ¶¶90, 91). Pet. at 20-23.

Ground 2 (Ahn + 721Lee) combines Ahn's NFC and wireless-charging antenna module having coils that "may be connected to each other in series or in parallel" (Ex1007, ¶¶113, 120), with 721Lee, which teaches the benefits of running extension lines through gaps in coils that are electrically connected in parallel and further teaches that parallel-connected coils provide security benefits for NFC payment transactions (Ex1011, ¶¶134, 152). Pet. at 68-71.

Ground 3 (005Lee + Seong + Cho) combines 005Lee's NFC and wireless-charging antenna module with coil antenna patterns on both sides of the same substrate (Ex1008, 17:4-9), with Seong, which provides details on how to implement coil antenna patterns on both sides of the same substrate, including by running extension lines through gaps (Ex1006, Figs. 5-6), and Cho, which teaches electrically connecting coils in parallel (Ex1010 ¶¶90, 91). Pet. at 111-117.

None of the prosecution art, including the two references PO identifies (DD at 12-20), are remotely as strong as the references in the Petition, and unlike Kang, Ahn, 721Lee, and Cho, none of the prosecution art teaches parallel electrical

connection. PO's cumulativeness argument thus fails. Discretionary denial under § 325(d) is not appropriate where, as here, the petitioned references disclose the “purportedly missing claim limitations” over which the Examiner allowed claims. *Carbyne, Inc. v. Tritech Software Sys.*, IPR2025-00959, Paper 11 at 2, Director Decision (Oct. 3, 2025); *Samsung Elecs. Co., Ltd.*, IPR2025-00935, Paper 12, Director Decision, at 2-3. This is an especially compelling case for Board review because Kang—a reference with a nearly identical specification to the '875 patent—should have been before the Examiner in the first instance. PO's own named inventor was aware that Kang disclosed the purportedly critical parallel electrical connection limitation. Far from counseling against institution, these circumstances show that Board review is an appropriate use of Board resources.

V. CONCLUSION

The Petitions should proceed to institution and be addressed on the merits.

Date: April 29, 2026

Respectfully submitted,

/s/ Robert A. Appleby

Robert A. Appleby, P.C.
Reg. No. 40,897

Attorneys for Petitioner

CERTIFICATE OF COMPLIANCE

The undersigned certifies that the foregoing Petitioners' Response to Patent Owner's Discretionary Denial Brief contains 20 pages, exclusive of parts exempted as provided in 37 C.F.R. 42.24(a), and therefore complies with the 20-page limit.

Date: April 29, 2026

Respectfully submitted,

/s/ Robert A. Appleby

Robert A. Appleby, P.C.
Reg. No. 40,897

Attorneys for Petitioner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), it is hereby certified that on April 29, 2026, an electronic copy of this Petitioners' Response to Patent Owner's Discretionary Denial Brief and supporting exhibits were served via email on Patent Owner's counsel of record in this proceeding:

Jason Engel
Reg. No. 51,654
Anna Rebekah Hill
Reg. No. 81,745
K&L Gates LLP
70 W. Madison Street, Suite 3100
Chicago, IL 60602
Jason.Engel.PTAB@klgates.com
rebekah.hill@klgates.com

Erik J. Halverson
Reg. No. 73,552
K&L Gates LLP
4 Embarcadero Center, Suite 1200
San Francisco, CA 94111
erik.halverson@klgates.com

Date: April 29, 2026

Respectfully submitted,

/s/ Robert A. Appleby

Robert A. Appleby, P.C.
Reg. No. 40,897

Attorneys for Petitioner