UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.,

Petitioner

v.

ADVANCED INTEGRATED CIRCUIT PROCESS LLC,

Patent Owner

Case IPR2025-00682
Patent 8,198,686

PATENT OWNER'S DISCRETIONARY DENIAL BRIEF PURSUANT TO THE BOARD'S MARCH 26, 2025 INTERIM PROCESSES FOR PTAB WORKLOAD MANAGEMENT

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EXHIBIT LIST

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EX2001	**Complaint for Patent Infringement,** Dkt. No. 1, *Advanced Integrated Circuit Process LLC v. Taiwan Semiconductor Manufacturing Company Limited,* Case No. 2:24-cv-00623, (E.D. Tex. Filed August 1, 2024)
EX2002	**Complaint for Patent Infringement,** Dkt. No. 1, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Case No. 2:24-cv-00730, (E.D. Tex. Filed September 6, 2024)
EX2003	**Consolidation Order,** Dkt. No. 12, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed December 6, 2024)
EX2004	**Docket Sheet**, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Case No. 2:24-cv-00730, (E.D. Tex.) (Printed May 31, 2025)
EX2005	**Docket Control Order**, Dkt. No. 51, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed February 14, 2025)
EX2006	**Second Docket Control Order**, Dkt. No. 55, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed February 21, 2025)
EX2007	**First Amended Docket Control Order**, Dkt. No. 59, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed February 27, 2025)
EX2008	**Third Amended Docket Control Order,** Dkt. No. 83, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed April 9, 2025)

Exhibit	Description
EX2009	**Docket Sheet,** *Advanced Integrated Circuit Process LLC v. Taiwan Semiconductor Manufacturing Company Limited,* Case No. 2:24-cv-00623, (E.D. Tex. Dated April 23, 2025)
EX2010	**Notice of Compliance (re: P.R. 3-1 and 3-2 disclosures),** Dkt. No. 45, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed January 30, 2025)
EX2011	**Plaintiff's Unopposed Motion for Leave to Amend Infringement Contentions,** Dkt. No. 54, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed February 20, 2025)
EX2012	**Plaintiff's Unopposed Motion for Leave to Amend Infringement Contentions Against Defendant United Microelectronic Corporation,** Dkt. No. 64, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed March 7, 2025)
EX2013	**Defendant Taiwan Semiconductor Manufacturing Company Limited's Notice of Compliance and Service of Invalidity Contentions**, Dkt. No. 104, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed May 1, 2025)
EX2014	**Defendant United Microelectronic Corporation's Notice of Compliance and Service of Invalidity Contentions**, Dkt. No. 106 *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed May 2, 2025)
EX2015	**Scheduling Order**, Dkt. No. 28, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Case No. 2:24-cv-00730, (E.D. Tex. Filed December 11, 2024)
EX2016	**Defendant TSMC's Invalidity Contentions**, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)

Exhibit	Description
EX2017	**Defendant United Microelectronics Corporation's Invalidity Contentions**, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)
EX2018	**Declaration of Kemper Diehl**, dated June 17, 2025
EX2019	**Protective Order**, Dkt. No. 71, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed March 20, 2025)
EX2020	**Joint Notice Resolving Discovery Disputes Set for Hearing (Dkt. Nos. 78, 80, 89, 90)**, Dkt. No. 102, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed April 30, 2025)
EX2021	**Defendant Taiwan Semiconductor Manufacturing Company Limited's Motion to Stay Pending *Inter Partes* Review**, Dkt. No. 99, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed April 28, 2025)
EX2022	**United Microelectronics Corporation's Motion to Dismiss Plaintiff's Claims for Direct Infringement and Pre-Suit Indirect Infringement**, Dkt. No. 15, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed December 6, 2024)
EX2023	**Defendant Taiwan Semiconductor Manufacturing Company Limited's Reply in Support of its Motion to Stay Pending *Inter Partes* Review**, Dkt. No. 109, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed May 20, 2025)
EX2024	**Plaintiff's Opposition to Defendant Taiwan Semiconductor Manufacturing Company Limited's Motion to Stay,** Dkt. No. 108, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed May 12, 2025)
EX2025	**TSMC German Published Patent Application No. DE 10 2014 119 124 B4**
EX2026	**TSMC U.S. Patent No. 9,196,708**
EX2027	**Statutory Disclaimer** of claims 1–24 in U.S. Patent No. 8,198,686

Exhibit	Description
EX2028	**Exhibit 686-02** to Defendant TSMC's Invalidity Contentions, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)
EX2029	**Exhibit 686-04** to Defendant TSMC's Invalidity Contentions, *Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation,* Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)

Taiwan Semiconductor Manufacturing Company Ltd. ("Petitioner") seeks to burden the Board and Advanced Integrated Circuit Technology, LLC ("Patent Owner") with duplicative litigation over the validity of U.S. Patent No. 8,198,686 ("the '686 patent"). That issue will be resolved at trial in federal district court months before the Board's projected date for a final written decision in this proceeding. The impending trial date, the substantial overlap between the Petition and the issues in the district court, and the other relevant factors all indicate this proceeding would duplicate litigation in a parallel forum and waste public and private resources. Patent Owner therefore respectfully requests that the Board exercise its discretion to deny the Petition pursuant to 35 U.S.C. § 314(a).

I. INTRODUCTION

Congress created *Inter Partes* Review ("IPR") to provide a "***quick*** and ***cost effective alternative***[] to litigation." *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1317 (Fed. Cir. 2018) (quoting H. Rep. No. 112-98, at 40, 48 (2011)) (emphasis added). But when a jury trial on the validity of the same patent is scheduled to occur before the conclusion of any potential IPR, as in this case, "[i]nstitution of an *inter partes* review . . . would not be consistent with 'an objective of the AIA [] to provide an effective and efficient alternative to district court litigation.'" *NHK Spring Co., Ltd. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8, at 20 (PTAB Sept. 12, 2018) (precedential) (quoting *Gen. Plastic Indus.*

Co. v. Canon Kabushiki Kaisha, IPR2016-01357, Paper 19, at 16–17 (PTAB Sep. 6, 2017) (precedential in relevant part)). Applying the *Fintiv* factors in this case confirms that instituting IPR on the Petition would not be "quick" or "cost effective," nor even an "alternative to litigation," as shown herein. *See generally Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB March 20, 2020) (precedential) [hereinafter "*Fintiv I*"].

Trial is scheduled for June 2026 in two consolidated infringement lawsuits asserting the '686 patent (and the six other patents with closely related subject matter that Petitioner is challenging in parallel IPR petitions) against Petitioner and Petitioner's co-defendant United Microelectronics Corporation ("UMC") (collectively, "the Lawsuits"). The trial court will therefore resolve all validity challenges to the '686 patent—rather than just the small subset raised in the Petition—roughly ***four months before*** the Board's statutory deadline to issue a final written decision in this case in October 2026.

Moreover, the Lawsuits will have progressed considerably by the time the Board even decides whether to institute. Under the case schedule, the projected date for the institution decision in this proceeding precedes claim construction briefing by just a few weeks and the *Markman* hearing by two months; fact discovery will close about one month after that hearing. Given such an advanced stage of the case, Petitioner's motion for a stay is highly unlikely to be granted. Moreover, UMC has

adopted each of the Petition's theories in its invalidity contentions in the Lawsuits but has not joined Petitioner's request for a stay (or filed its own). Under these circumstances, there is essentially no chance that the Lawsuits will be stayed in their entirety, meaning that *even if the Lawsuit against Petitioner were stayed*, the Petition's theories will still proceed to trial in June 2026 in the UMC Lawsuit.

Furthermore, Petitioner's *Sotera* stipulation is ineffective to eliminate the overlapping issues between the Petition and the Lawsuits. First, in the Lawsuits, Petitioner asserts invalidity grounds that combine all the primary references asserted in the Petition (and all but one of the secondary references) with allegedly "on sale" and "public use" prior art that cannot be raised in an IPR. These grounds are not subject to Petitioner's stipulation despite raising overlapping factual issues, such as the disclosure of the references asserted in both proceedings. Second, although UMC's invalidity contentions adopt the Petition's invalidity theories, UMC has not sought joinder in this proceeding or offered any stipulation whatsoever to limit the grounds of invalidity it may assert at trial. Because UMC is pressing the Petition's invalidity theories in the Lawsuits *regardless of whether Petitioner does so*, Petitioner's *Sotera* stipulation is ineffective to mitigate the concerns about duplicating litigation.

Finally, the merits here are weak, and other relevant considerations weigh heavily in favor of discretionary denial. The Petition lacks any anticipation theory

as to the extant[1] '686 patent claims and instead relies solely on obviousness. The Petition concedes that neither primary reference teaches that "the silicon nitride film causes first stress in a gate length direction of a channel region in the first active region" and instead relies on Hsu823 as providing a motivation to use a tensile silicon nitride film. As an initial matter, the Petition admits Hsu823 is not prior art under Section 102(b), and thus discovery may reveal that Hsu823 is not prior art at all, a result that would be fatal to all grounds in the Petition. Moreover, the Petition's motivation to use a tensile film is premised on benefits that would allegedly accrue to NMOS transistors but fails to (1) acknowledge the impairment in PMOS transistor performance that a tensile film would cause; or (2) explain why a person of skill in the art ("POSA") would be motivated to sacrifice PMOS performance for improved NMOS performance. Admissions elsewhere in the Petition and its exhibits show that a POSA would never make that selection for the devices disclosed in the primary references. In addition to this weakness in the merits, and as explained below, other considerations favor discretionary denial, including the settled expectations regarding the '686 patent, the nearing expiration of the '686 patent, the need for highly relevant foreign third-party discovery ill-

[1] As explained in Section IV.A.4 *infra* addressing *Fintiv* Factor 4, the Petition challenges all claims in the '686 patent rather than just the asserted claims in the Lawsuits, presumably with a goal of undercutting the "substantial overlap" between the invalidity theories in the Lawsuits and

suited to a Board proceeding, and the complexity of the present multi-patent, multi-party dispute.

II. FACTUAL BACKGROUND

A. Patent Owner Files the Lawsuits and Trial Is Set for June 2026

Patent Owner filed suit against Petitioner in the Eastern District of Texas on August 1, 2024 (the "TSMC Lawsuit") and against co-defendant UMC soon after, on September 6, 2024 (the "UMC Lawsuit"). Ex.2001; Ex.2002. Both Lawsuits involve the same seven patents, including the '686 patent. *Id.* The Lawsuits are both assigned to the Honorable Rodney Gilstrap and have been consolidated for all pre-trial purposes. Ex.2003 (ECF 12). In a January 21, 2025 scheduling conference, Judge Gilstrap "provide[d] counsel with Claim Construction and Jury Selection/Trial dates." Ex.2004 (UMC Docket Sheet) at 9. The Claim Construction hearing is scheduled for December 18, 2025, and trial is scheduled to begin with jury selection on June 22, 2026. Ex.2005 (ECF 51) at 1, 4. Notwithstanding three subsequent orders changing various interim deadlines, those two dates have never changed. *See* Ex.2006 (ECF 55); Ex.2007 (ECF 59); Ex.2008 (ECF 83).

B. The Parties Vigorously Litigate the Lawsuits

The parties in the Lawsuits have vigorously litigated them, as reflected by the

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the Petition. Patent Owner is eliminating Petitioner's argument by disclaiming all unasserted independent claims in the '686 patent as well as their dependent claims.

more than 100 entries on the docket sheets, many of them substantive. Ex.2004; Ex.2009. The parties have expended significant time and resources to develop their claims and defenses already, and even more will be done by the projected date for an institution decision.

First, the parties have developed their infringement and invalidity theories. Patent Owner served preliminary infringement contentions on January 30, 2025. Ex.2010 (ECF 45). Since then, Patent Owner has amended its contentions as to both Petitioner and UMC. Ex.2011 (ECF 54); Ex 2012 (ECF 64). Petitioner's and UMC's invalidity contentions—originally due March 4, 2025—were served on May 1, 2025 after multiple extensions of the deadline. Ex.2013 (ECF 104); Ex.2014 (ECF 106); *see* Ex.2015 (ECF 28) at 2; Ex.2005 (ECF 51) at 6; Ex.2008 (ECF 83) at 6. Petitioner's invalidity contentions are 286 pages long, not including the appended invalidity claim charts. Ex.2016. There are 9 such claim charts for the '686 patent alone. *See id.* at 99. UMC independently served invalidity contentions that are 67 pages long, not including appended invalidity claim charts. Ex.2017.

Second, the parties have invested significant effort into fact discovery already, and fact discovery will be nearing completion by the time of any institution decision. As of the date of this filing, 45 interrogatories have been issued. Ex.2018 ¶¶ 3–4. Four depositions are scheduled to occur in the next 30 days. *Id.* ¶ 5. Pursuant to the district court's protective order, Patent Owner's designated reviewer

has made at least six visits to review Petitioner's sensitive technical information at the offices of Petitioner's litigation counsel. *Id.* ¶ 6; Ex.2019 (ECF 71). The parties have collectively filed and briefed three motions to compel discovery on various issues. *See* Ex.2004 (first motion and response, ECF 78 & 88; second motion and response, ECF 80 & 91; third motion and response, ECF 89 & 100). (The parties later resolved their discovery disputes without court intervention. Ex.2020 (ECF 102).)

Under the current docket control order, the deadline for substantial completion of document production (and exchange of privilege logs) is November 5, 2025, Ex.2008 (ECF 83) at 5, just a few weeks after the Board's October 18, 2025 institution deadline. The deadline for completing fact discovery and filing motions to compel is January 29, 2026. *Id.* Hence, by the time this proceeding would be instituted (if at all), the parties will have invested even more time and effort into the discovery process in the Lawsuits.

Third, significant motion practice has already occurred in the Lawsuits, and the claim construction process will be underway before the deadline for institution. As noted above, the parties have filed multiple motions seeking to compel discovery. Similarly, the amendments to Patent Owner's infringement contentions (referenced above) involved motions for leave to amend and a motion to compel supplementation of those contentions. Ex.2011 (ECF 54); Ex.2012 (ECF 64);

Ex.2004 at 12 (describing ECF 90, sealed motion to strike and compel supplementation of contentions). In addition to these motions, Petitioner has filed a motion to dismiss or transfer venue, Ex.2009 (describing TSMC ECF 26,[2] sealed motion to dismiss or transfer), and a motion to stay the litigation pending proceedings on this and Petitioner's other IPR petitions, Ex.2021 (ECF 99).

UMC filed its own motion to dismiss, independent of Petitioner's motion. Ex.2022 (ECF 15). And UMC has not joined Petitioner's motion to stay, *see* Ex.2021 (ECF 99) at 1, a fact that Petitioner embraced in its Reply to Patent Owner's Opposition to the stay motion, *see* Ex.2023 (ECF 109) at 2 ("The Court can allow litigation against UMC to continue, while staying the case against [Petitioner]."). Thus, Petitioner plans for UMC to continue to litigate the Petition's theories in the district court while Petitioner litigates them here.

In addition to all the motion practice that has already occurred, the parties will be well into the claim construction process by the October 18 institution deadline in this proceeding. *See* Ex.2008 (ECF 83) at 5–6. Under the Eastern District of Texas Local Patent Rules ("P.R.") and the current schedule, the parties will have been required (1) to disclose the proposed terms for construction and their proposed constructions and (2) to file their joint claim construction statement. *Id.* at

[2] Except as otherwise stated, all references to electronic case filing ("ECF") numbers refer to the docket sheet for the UMC Lawsuit, which was designated the "lead case." Ex.2003.

6; *see* P.R. 4-1–4-3 *available at* https://www.txed.uscourts.gov/?q=patent-rules. Claim construction discovery will be underway, and Patent Owner will be a couple of weeks from filing the opening claim construction brief. Ex.2008 (ECF 83) at 5.

C. Petitioner and Co-Defendant UMC File IPR Petitions Challenging All Asserted Patents

1. Petitioner's Seven IPR Petitions

Approximately seven months after the TSMC Lawsuit was filed, Petitioner began filing, on a rolling basis, petitions for IPR. To date, Petitioner has filed seven petitions, one for each patent-in-suit, including the '686 patent that is the subject of this proceeding. As shown in the chart below, the anticipated deadline for final written decision in this IPR (indicated by underlining) is about four months ***after*** the June 2026 trial date set for the Lawsuits. In most of Petitioner's IPRs, the final written decision deadlines are anticipated to be nearly a full month after that.

IPR No.	Patent	Filing Date	Notice of Filing Date Accorded	Institution Decision Deadline	Final Written Opinion Deadline
IPR2025-00682	'686	03-28-2025	04-18-2025	10-18-2025	10-18-2026
IPR2025-00683	'425	03-26-2025	04-18-2025	10-18-2025	10-18-2026
IPR2025-00828	'227	04-15-2025	05-13-2025	11-13-2025	11-13-2026
IPR2025-00829	'764	04-15-2025	05-13-2025	11-13-2025	11-13-2026

IPR No.	Patent	Filing Date	Notice of Filing Date Accorded	Institution Decision Deadline	Final Written Opinion Deadline
IPR2025-00830	’180	04-15-2025	05-13-2025	11-13-2025	11-13-2026
IPR2025-00831	’076	04-15-2025	05-12-2025	11-12-2025	11-12-2026
IPR2025-00832	’779	04-11-2025	05-12-2025	11-12-2025	11-12-2026

The Petition includes a *Sotera* stipulation, stating that “if IPR is instituted, Petitioner will not pursue in the related district court proceeding any ground that Petitioner raised or reasonably could have raised against the challenged claims during the instituted IPR.” Petition at 101. Petitioner’s other petitions include similar stipulations.

2. UMC’s Seven IPR Petitions

On May 23, 2025, UMC filed an IPR petition challenging the ’779 patent. *See* IPR2025-01053, Paper 1. Since then, UMC has filed six more IPR petitions challenging the rest of the patents asserted in the Lawsuits, including the ’686 patent. *See* IPR2025-01076, Paper 1; IPR2025-01079, Paper 1; IPR2025-01090, Paper 3; IPR2025-01091, Paper 3; IPR2025-01092, Paper 3; IPR2025-01093, Paper 3. No filing date has yet been accorded to any of these petitions.

UMC has not sought joinder in any of its IPRs with the corresponding proceeding brought by Petitioner against the same patent. UMC’s petitions do ***not***

include *Sotera* stipulations.

D. Petitioner and UMC Assert the Petition's Invalidity Theories in Their Contentions in District Court

On May 1, 2025, after Petitioner had filed the last of its seven IPR Petitions and before UMC filed the first of its petitions, Petitioner and UMC each served their respective invalidity contentions in the Lawsuits. Ex.2013; Ex.2014. Both Petitioner and UMC expressly incorporated the positions and evidence cited in Petitioner's seven IPR Petitions. *See* Ex.2016 at 55; Ex.2017 at 5, 7, 27, 38, 52.

In addition to this express incorporation by reference, the grounds presented in the Petition against the claims at issue in the Lawsuits—claims 25–29, 31, 34, and 35—are also set forth in Petitioner's invalidity contentions. For these claims, the Petition asserts obviousness based on (i) Aoyama (Ex.1005) and Hsu823 (Ex.1006) ("Ground 1C") and (ii) Akasaka (Ex.1008) and Hsu823 ("Ground 2C"). Petition at viii, 1. Petitioner relies on the same references in its invalidity contentions from the litigation, which refers to Aoyama as "Aoyama950" and Akasaka as "Akasaka077"; Hsu823 is "Hsu823" in both. *Compare id.* at vii (Exhibits 1005, 1006, and 1008) *with* Ex.2016 at 17–19. Petitioner employs those same references in the same combinations in both the Petition and its invalidity contentions, as shown in the chart below.

Petition Ground	Assertion in Petitioner's Invalidity Contentions
1C: Aoyama, Hsu823	Ex.2016 at 100 – asserting obviousness (*see id.* at 99) based on "Aoyama950" in combination with, *inter alia*, "Hsu823," citing (in part) claim chart "686-04"
2C: Akasaka, Hsu823	Ex.2016 at 100 – asserting obviousness (*see id.* at 99) based on "Akasaka077" in combination with, *inter alia*, "Hsu823," citing (in part) claim chart "686-02"

The claim charts corresponding to these combinations reflect that Petitioner is pursuing the same theories in the district court as in the Petition. *Compare* Petition Ground 1C *with* Ex.2029 (claim chart 686-04); *compare* Petition Ground 2C *with* Ex.2028 (claim chart 686-02).

In addition to these grounds, Petitioner asserts multiple other combinations involving the same three primary references, as well as combinations based on six additional primary references. Ex.2016 at 99–101. At least three of these additional primary references—Akasaka939, Hsu660, and Okazai789, *id.* at 100–01 (citing charts 686-03, -07, and -08)—have been filed as exhibits in this proceeding. *Compare id.* at 17–20 *with* Petition at viii–xi.

At least one of the primary references cited in Petitioner's invalidity contentions is a pair of products,[3] however, which could not have been relied upon as prior art in the Petition. Ex.2016 at 21. Petitioner identifies these allegedly prior

[3] Petitioner appears to assert this pair of products as a single reference.

art products as the "Intel_686_Products" (referring to the "Intel Xeon E5410" and the "Intel Core 2 Extreme QX9650"). *Id.* Petitioner asserts obviousness based on these products in combination with one or more references from a long list. *Id.* at 100 (referencing chart 686-01). The listed references include all three of the references cited in the Petition against the claims asserted in the Lawsuits, indicated by annotations to the image below:

Primary Exh. No.	Primary Reference	In Combination With One or More of the Following (As Described in Exhibits 686-01 through 686-09 and Herein)[13]:
686-01	Intel_686_Products	Akasaka077, Akasaka939, Alvarez069, Aoyama950, Bai article, Bohr article, Bohr559, Bohr683, Hou414, Hsu660, Hsu823, James 90nm article, Jung104, Kavalieros277, Kavalieros729, Ke984, Mistry2007 article, Mistry2007 presentation, Murthy151, Murthy482, Nagaoka751, Nakajima317, Okazaki789, Thompson Apr2004 article, Thompson Nov2004 article, Yu273

Id.; *see id.* at 18–19 (identifying references); Petition at viii, 1.

Petitioner's invalidity contentions therefore appear to encompass theories that rely on the Intel_686_Products just enough to avoid IPR estoppel, while otherwise using the same art presented in this proceeding. Petitioner designated the chart 686-01 under the district court's protective order in the Lawsuits. Accordingly, Patent Owner is unable to file that chart here or to demonstrate the overlap in theories.

UMC's invalidity contentions "fully incorporate[] by reference the Invalidity and Ineligibility Contentions served by [Petitioner] in this Action" and also "incorporate[] by reference all docket entries and exhibits to the [seven] Petitions

for [IPR] filed by [Petitioner] against [Patent Owner],” which UMC lists by case number. Ex.2017 at 5. Specifically, with respect to the ’686 patent, UMC “fully incorporates by reference the Petition for Inter Partes Review No. IPR2025-00682 and the Declaration of Dr. Scott E. Thompson, (Ex-1003) thereto.” *Id.* at 27. UMC includes similar language incorporating the positions and evidence presented in Petitioner’s other Petitions. *See id.* at 7, 38, 52. UMC is thus advancing all of the invalidity theories in the Petition, as well as Petitioner’s theories ostensibly predicated on allegedly “on sale” and “in public” prior art.

E. Petitioner Files a Motion for a Stay in the District Court But Co-Defendant UMC Declines to Join the Motion

On April 25, 2025, about one month after the Petition was filed on March 26, 2025, Petitioner filed a motion to stay the TSMC Lawsuit pending the outcome of its IPR Petitions. Ex.2021. ***UMC did not join (and has not since joined) that motion***. *See id.* On May 9, 2025, Patent Owner filed its opposition to Petitioner’s request for a stay. Ex.2024. In that opposition, Patent Owner noted that even if the motion were granted, “AICP’s related action against United Microelectronics Corporation (‘UMC’) . . . would continue” because “UMC has not sought a stay.” *Id*. at 6. In its reply brief, rather than rebutting this point, Petitioner embraced it, explaining that “[t]he Court can allow litigation against UMC to continue, while staying the case against TSMC.” Ex.2023 at 2. The district court has not yet

adjudicated the motion.

III. LEGAL PRINCIPLES

The USPTO considers the presence and status of parallel district court litigation in determining whether to deny institution. *See NHK Spring Co. Ltd.*, IPR2018-00752, Paper 8, at 20 (precedential); *Fintiv I*, at 5–6; *see also Gen. Plastic Indus. Co., Ltd.*, IPR2016-01357, Paper 19, at 16–17 ("[W]e recognize that an objective of the AIA is to provide an effective and efficient alternative to district court litigation . . . .").

Fintiv "sets forth factors that balance considerations of system efficiency, fairness, and patent quality when a patent owner raises an argument for discretionary denial due to the advanced state of a parallel proceeding." *Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, at 7–8 (PTAB May 13, 2020) (informative) [hereinafter "*Fintiv II*"]. The factors are:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and

6. other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv I, at 6. "These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding." *Id.* "In evaluating the factors, the Board takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Fintiv II*, at 8.

IV. ARGUMENT

A. The Fintiv *Factors Each Weigh in Favor of Discretionary Denial*

Instituting a proceeding on the Petition would undermine the policy goals that Congress sought to promote by creating, in IPRs, a "quick and cost effective alternative[] to litigation." *WesternGeco LLC*, 889 F.3d 1308, at 1317. As it stands now, the district court is presiding over the two consolidated Lawsuits, which encompass ***all*** validity challenges to ***seven*** patents (including the '686 patent) from ***two*** different challengers (including Petitioner). And the district court will have resolved those challenges through trial well before the Board completes its review of the much smaller subset of challenges raised in the Petition. Indeed, because UMC is not a party to Petitioner's seven IPR petitions and Petitioner is not a party to UMC's seven IPR petitions, to bind both parties as to all seven patents on just a subset of the validity challenges in the district court, the USPTO would need to

institute proceedings on ***fourteen*** IPRs. As such, this case is a poster child for discretionary denial under *NHK* and *Fintiv*.

An analysis of the *Fintiv* factors confirms this, as shown in greater detail below. Trial is scheduled about four months before the projected date for a final written decision, and there is no evidence to suggest that trial will be delayed. Consistent with the district court's track record on stays pending IPRs, a stay is highly unlikely given the advanced stage of the parallel litigation and the idiosyncratic rules of the district court. The trial in the district court will resolve the same issues raised in the IPR petition, so the overlap favors denying institution, notwithstanding Petitioner's *Sotera* stipulation. Indeed, the particular circumstances involving UMC make the duplication of issues highly likely. Moreover, additional considerations here favor denial.

Each of the *Fintiv* factors thus weighs at least slightly in favor of denying institution; none weighs against. The Director should therefore exercise discretion under 35 U.S.C. § 314(a) and deny institution.

1. *Fintiv* Factor 1 Favors Discretionary Denial

On the facts of this case, *Fintiv* Factor 1—namely, "whether a stay exists or is likely to be granted if a proceeding is instituted," *Fintiv I*, at 6—militates in favor of the Board exercising its discretion to deny institution. First, the particular facts of this case make it highly unlikely for a stay to be granted. And second, even if a stay

were granted, it would not "allay[] concerns about inefficiency and duplication of efforts," *id.*, which is the *raison d'etre* for this factor.

Normally, when a motion for a stay has been filed but not adjudicated (as is the case here), the Board treats this factor as "neutral" because the Board "decline[s] to speculate on how the court may rule on the pending motion to stay." *Solus Advanced Materials Co., Ltd. v. Sk Nexilis Co., Ltd.*, IPR2024-01463, Paper 14, at 13 (PTAB Apr. 25, 2025); *see Fintiv II*, at 12 ("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.") (informative); *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC,* IPR2019-01393, Paper 24, at 7 (PTAB June 16, 2020) (similar) (informative). But here, neither the ***likelihood*** nor the ***effect*** of granting the request for a stay is speculative. The district court is almost certain to deny the request. And even if the requested stay is granted, it would not delay trial in the UMC Lawsuit, which will address the same grounds asserted in the Petition.

First, the district court is all but certain to deny Petitioner's request for a stay. As an initial matter, the district court "has a consistent practice of denying motions to stay when the PTAB has yet to institute post-grant proceedings." *E.g., Force Mos Tech., Co. v. Asustek Comput., Inc.*, No. 2:22-cv-00460-JRG, 2024 U.S. Dist. LEXIS 66423, at *9 (E.D. Tex. Apr. 10, 2024) (quoting *Nanoco Techs. Ltd. v.*

Samsung Elecs. Co. Ltd., No. 2:20-CV-00038-JRG, 2021 U.S. Dist. LEXIS 134729, at *4 (E.D. Tex. Jan. 8, 2021)). Moreover, "[i]t has been [the district court's] consistent and long established practice to deny motions to stay pending IPR . . . when the PTAB [has] instituted review on less than all asserted claims of all asserted patents. . . ." *AGIS Software Development LLC v. Google LLC*, No. 19-cv-361-JRG, 2021 U.S. Dist. LEXIS 24195, at *9 (E.D. Tex. Feb. 9, 2021); *Force Mos Tech.*, 2024 U.S. Dist. LEXIS 66423, at *10 (similar). Thus, unless the Board institutes proceedings on all seven of Petitioner's petitions, no stay will be granted.

By the time the Board begins reaching its institution decisions on all seven Petitions, the Lawsuits will be in an advanced state. Projected dates for the Board's institution decisions range from October 18, 2025 for this Petition to as late as November 13, 2025. *See* Section II.C, *supra*. By the latter date, the parties will have substantially completed document production (November 5, 2025) and have almost completed claim construction briefing (November 26, 2025). Ex.2008 (ECF 83) at 5. Moreover, fact discovery will be nearing completion and trial will be just seven months away. In short, by the time the district court would be willing to entertain any potential stay, the parties would have already invested tremendous resources in the Lawsuits. *See* Section II.B, *supra*. As recognized in *Fintiv I*, significant work "completed by the parties and the court in the parallel proceeding" make a stay generally "less likely." *Fintiv I*, at 10.

Further, given the Petitioner's delay in filing its IPRs, it is far from a given that the district court would stay the TSMC Lawsuit *even if the Board instituted proceedings on all seven IPR petitions*. Petitioner did not begin filing IPRs until almost eight months after the TSMC Lawsuit was filed on August 1, 2024. *Compare* Ex.2001 *with* Petition at 114 (March 26, 2025). In *Chrimar Sys. v. Adtran, Inc.*, the district court denied a stay despite instituted IPR proceedings, in part because the petitioner had waited seven months to begin filing IPR petitions. Civ. No. 6:15-CV-618-JRG-JDL, 2016 U.S. Dist. LEXIS 188613, at *17–18 (E.D. Tex. Dec. 8, 2016) ("[I]f the PTAB's institution of IPRs created a *per se* rule obligating district courts to stay their proceedings, there would be no need for courts to consider a three-factor test or any other circumstances that might be relevant to a stay. Given the particular circumstances here, it is inappropriate to stay this case.").

Second, *Fintiv* Factor 1 also weighs in favor of discretionary denial because Petitioner's requested stay would not prevent duplicative litigation, *even if it is granted*. The existence of a stay is pertinent to the institution decision because ***usually*** it "allays concerns about inefficiency and duplication of efforts." *Fintiv I*, at 6. That is so because normally, whether a petition's theories fail or succeed, institution coupled with a stay eliminates the need to address those same theories in parallel proceedings. More specifically, to the extent a petition's theories fail, the estoppel provisions of Section 315 protect a patent owner from attempts to re-

litigate those theories after the stay is lifted. And, to the extent a petition's theories succeed, the patent owner is bound by the Board's adjudication.

Here, however, UMC adopted the Petition's theories in its invalidity contentions in the district court and decided not to join Petitioner's motion for a stay. Thus, regardless of whether the district court grants Petitioner's motion for a stay, the district court will resolve the validity challenges asserted in the Petition at trial in June 2026 in the UMC Lawsuit. Thus, a stay would not yield the benefits contemplated by *Fintiv* in its discussion of Factor 1. Because it is beyond speculation that Petitioner's requested stay will ***not*** yield those benefits, Factor 1 weighs against institution.

2. *Fintiv* Factor 2 Favors Discretionary Denial

Fintiv Factor 2—namely, the "proximity of the court's trial date to the Board's projected statutory deadline for a final written decision," *Fintiv I*, at 5–6—militates strongly in favor of the Board exercising its discretion to deny institution. In the Director's recent decisions under Section 314(a), this factor looms large. *ARM Ltd. v. Daedalus Prime LLC*, IPR2025-00207, Paper 10, at 2 (U.S. Pat. & Trademark Off. May 16, 2025) (Acting Dir. C.M. Stewart) (discretionarily denying institution because "it is unlikely that a final written decision [] will issue before district court trial"); *Ericsson Inc. v. Procomm Int'l PTE LTD*, IPR2024-01455, Paper 15, at 2 (U.S. Pat. & Trademark Off. May 16, 2025) (Acting Dir. C.M.

Stewart) (discretionarily denying institution when "the related district court trial is set to conclude substantially before a final written decision will issue in this proceeding").

Trial in the district court is scheduled for June 22, 2026, Ex.2008 at 2, four months ***before*** the projected statutory deadline for this IPR proceeding, almost five months before the projected statutory deadline for most of the Seven Petitions, and six months before the earliest statutory deadline for any of UMC's seven petitions. The Board has previously held that a trial date that precedes a final written decision deadline by as little as one-to-two months favors discretionary denial. *Fintiv II*, at 12–13 (informative) (second factor favors denial when "the currently scheduled District Court trial is scheduled to begin two months before our deadline to reach a final decision"); *see NXP USA, Inc. v. Impinj, Inc.*, PGR2022-00005, Paper 18, at 8–9 (PTAB May 2, 2022) (two-month difference favors discretionary denial); *E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16, at 6–9 (PTAB May 15, 2019) (one-month period between trial date and deadline for final written decision favored discretionary denial); *eClinicalWorks, LLC v. Decapolis LLC*, IPR2022-00229, Paper 10, at 9 (PTAB Apr. 13, 2022) (similar).

Contrary to the Petition's assertion, Factor 2 is not "neutral." Petition at 112. Petitioner's unsubstantiated claim that trial dates, in the abstract, "often change[]" is irrelevant. *Id*. Nothing in the record here suggests that the trial date set by the

district court will change. To the contrary, the scheduling order in the Lawsuits has been amended multiple times, and the trial date has never shifted. *See* Section II.A, *supra*. Moreover, as the Board recently acknowledged, "[t]he current median time-to-trial in the Eastern District of Texas is 21.6 months." *Ericsson*, IPR2024-01455, Paper 15, at 2. The median case with the same August 1, 2024 filing date as the TSMC Lawsuit, Ex.2001 at 51, would get to trial in mid-May 2026, slightly ***earlier*** than the scheduled trial date. The statistical evidence thus shows that the scheduled trial date likely will not change. Further, even if the trial date did shift for some unanticipated reason, any argument by Petitioner that the date would shift later by four or more months is pure speculation.

To the extent Petitioner may argue that the trial date could change if the pending motion for transfer in the district court is granted, the Board should reject that argument as it has rejected similar arguments in the past. As it has explained before, the Board "decline[s] to speculate on how the district court might rule on Petitioner's motion to transfer." *Solus Advanced Materials*, IPR2024-01463, Paper 14, at 14 (citing *Samsung Display Co., Ltd. v. Pictiva Displays Int'l Ltd.*, IPR2024-00855, Paper 12, at 8–9 (PTAB Nov. 19, 2024) for the proposition that the Board refuses to speculate how the district court might rule on pending motions). Indeed, the Director recently found that a petitioner's arguments regarding the likelihood of a district court granting a transfer motion were "speculative" and "not sufficiently

persuasive." *Advanced Micro Devices, Inc. v. Concurrent Ventures, LLC*, IPR2025-00223, Paper 9, at 3 (U.S. Pat. & Trademark Off. June 12, 2025) (Acting Dir. C.M. Stewart).

3. *Fintiv* Factor 3 Favors Discretionary Denial

Fintiv Factor 3 relates to the "investment in the parallel proceeding by the court and the parties," *Fintiv I*, at 5–6, "at the time of the institution decision," *id*. at 9. This factor weighs in favor of the Board exercising its discretion to deny institution because of the significant investment the parties have already made, as well as the work that will be done before the institution decision. *See* Section II.B, *supra*. As recognized in *Fintiv I*, significant investment by the parties undermines the likelihood of a stay and increases the risk of duplicative costs. *Fintiv I*, at 10 ("This investment factor is related to the trial date factor, in that more work completed by the parties and the court in the parallel proceeding tends to support the arguments that the parallel proceeding is more advanced, a stay may be less likely, and instituting would lead to duplicative costs.").

The parties have already invested considerable time and resources in the development of their infringement and invalidity contentions. *Sand Revolution II*, IPR2019-01393, Paper 24, at 10 (noting that investment in invalidity contentions is relevant to this factor) (informative). As noted above, Petitioner's invalidity contentions span thousands of pages including 9 appendices worth of claim charts

for the ’686 patent alone. *See* Ex.2016; Ex.2018 ¶ 8. Patent Owner, meanwhile, has amended its infringement contentions twice since serving the initial contentions in January. Ex.2010 (ECF 45); Ex.2011 (ECF 54); Ex 2012 (ECF 64). The parties’ investment in developing their contentions would, on its own, make Factor 3 at least neutral. *See Int’l Business Machines Corp. v. Digital Doors, Inc.*, IPR2023-00968, Paper 7, at 10–11 (PTAB Dec. 1, 2023). But the parties will have invested much more than that by the date of the institution decision.

By the time the Board has resolved the institution decision on all seven of Petitioner’s petitions on November 14, 2025, *see* Section II.C.1 *supra*, document production will be substantially complete and claim construction briefing will be less than two weeks from completion, Ex.2008 at 5 (ECF 83). Fact discovery will be nearing completion, and the claim construction hearing will be only a month away. *See id.* The Board has found that Factor 3 weighs in favor of discretionary denial when the parallel litigation was at a comparable stage. *See Samsung Elecs. Co., Ltd. v. Truesight Commnc’ns LLC*, IPR2024-01477, Paper 12, at 11–12 (PTAB Apr. 21, 2025) (weighing Factor 3 in favor of denial where the close of fact discovery was two weeks away and the claim construction hearing had just occurred); *see also Fintiv II*, at 14 (“Based on the level of investment and effort already expended on claim construction and invalidity contentions in the District Court, this factor weighs somewhat in favor of discretionary denial in this case.”).

Also relevant to this factor, *see Fintiv I*, at 11–12, Petitioner unnecessarily delayed filing the Petition until almost eight months after the TSMC Lawsuit was filed on August 1, 2024. *See* Section II.C.1 *supra*. The fact that Petitioner could have delayed even longer without being subjected to the one-year statutory bar is no justification. *Chrimar Sys.*, 2016 U.S. Dist. LEXIS 188613, at *17–18 (criticizing the petitioner for failing to initiate IPR filings until seven months after the lawsuit was filed). Further, Petitioner cannot argue that its delay should be measured from the date it learned of Patent Owner's disclosure of asserted claims because Petitioner challenged every claim in the '686 patent. Petition at 1. Similarly, Petitioner cannot assert that it needed to learn how Patent Owner had construed the claims in its infringement contentions because Petitioner contends that "[n]o terms require construction to resolve this controversy." *Id*. at 8.

4. *Fintiv* Factor 4 Favors Discretionary Denial

Factor 4 weighs strongly in favor of the Board exercising its discretion to deny institution because the "overlap between issues raised in the petition and in the parallel proceeding" is substantial.[4] *Fintiv I*, at 5–6.

For the claims at issue in the Lawsuits—claims 25–29, 31, 34, and 35—the

[4] To the extent that Petitioner argues there is not "substantial overlap" because the Lawsuits raise additional prior art theories that are not pressed in the Petition, the Board has already rejected that reasoning. *See, e.g.*, *Fintiv II*, at 15 (finding Petitioner's assertion of additional invalidity contentions "not relevant to the question of the degree of overlap for this factor").

Petition asserts the same grounds that Petitioner is asserting in the trial court. *See* Section II.D, *supra*. Petitioner's invalidity contentions use the same two primary references in the Petition—Aoyama and Akasaka—in the same combinations with the same secondary reference as the Petition. *Id.*; *see* Ex.2016 at 99–101 (citing, *inter alia*, charts 686-02 and -04 for the primary references and chart 686-09 for secondary references).

Not only did Petitioner include the Petition Grounds among the asserted obviousness combinations in its contentions, Petitioner "incorporate[d] by reference all positions and supporting materials it has filed in *inter partes* review Case Nos. IPR2025-00682, . . . on file with the U.S. Patent Trial and Appeal Board and other IPR cases against the Patents-in-Suit." *Id.* at 55. Similarly, UMC is relying on each of the Petition's primary and secondary references and has adopted each of the Petition's theories by incorporation. *See* Ex.2017 at 5, 27. Thus, the district court is overseeing all of the Petition's theories in both the TSMC Lawsuit and the UMC Lawsuit.

Petitioner's challenge of additional, unasserted claims does not meaningfully alter the analysis. First, in order to eliminate non-overlapping issues, Patent Owner has disclaimed claims 1–24. Ex.2027. The challenges to those claims are therefore irrelevant. *See* 37 C.F.R. § 42.107(e) ("No *inter partes* review will be instituted based on disclaimed claims.").

Second, the challenges to a small number of unasserted dependent claims does not change the weight of this factor in favor of discretionary denial. The '686 patent, as it stands after Patent Owner's disclaimer, contains only one independent claim (*i.e.*, claim 25) and ten dependent claims. Ex.1001 at 33:8–34–41; Ex.2027. In addition to the 8 claims at issue in the Lawsuits, the Petition also challenges the other 3 dependent claims. Petition at 1. The Board has found that, even when "the grounds for eight out of twenty claims . . . overlap with the parallel [proceeding], while the grounds for twelve dependent claims do not, this factor weighs slightly ***in favor of discretionary denial***." *Arashi Vision (U.S.) LLC D/B/A Insta360 v. GoPro, Inc.*, IPR2025-00017, Paper 11, at 13 (PTAB Apr. 28, 2025) (emphasis added). *A fortiori*, the facts here support discretionary denial.

Moreover, only one new reference is cited in the Petition for the unasserted dependent claims, and even that is cited for only one dependent claim. *See* Petition at 1 (citing Hobbs for challenges to claim 32). Given the common prior art presented and the common challenges to the sole independent claim and most of the dependent claims, the overlap in issues between this proceeding and the Lawsuits is substantial. *See Code200, UAB v. Luminati Networks Ltd.*, IPR2020-01506, Paper 10, at 11–12 (PTAB Feb. 16, 2021) ("In light of the common prior art asserted here and in the [] district court case, as well as the common challenge to the sole independent claim and all but two of the dependent claims of the patent, we agree

with the Patent Owner that the overlap in issues between the two proceedings is substantial.").[5]

Furthermore, Petitioner's *Sotera* stipulation is entitled to little, if any, weight on the particular facts of this case. As stated in recent guidance to the Board from Chief Judge Boalick, a *Sotera* stipulation is "not [] dispositive by itself" and will be considered "as part of [the Board's] holistic analysis under *Fintiv*." Memorandum, *Guidance on USPTO's recission of "Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation,"* at 3 (Mar. 24, 2025).[6] In that analysis, Petitioner's stipulation only "weighs [] in favor of not exercising discretion to deny institution" if it "mitigates any concerns of duplicative efforts" and "potentially conflicting decisions" such that "an *inter partes* review is a 'true alternative' to the district court proceeding." *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12, at 19 (PTAB Dec. 1, 2020) (precedential).

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[5] *See also Teso LT UAB v. Luminati Networks Ltd.*, IPR2021-00122, Paper 12, at 10 (PTAB Apr. 20, 2021) (denial of institution favored where Petition's prior art references were all identified in the district court invalidity contentions, the same independent claims were challenged in both proceedings, and "the additional claims challenged in the Petition are all dependent claims"); *eClinicalWorks*, IPR2022-00229, Paper 10 at, 12 (finding Factor 4 weighed in favor of denial where Preliminary Invalidity Contentions showed overlap of asserted claims, art and arguments asserted in the Petition); *U.S. Venture, Inc. v. Sunoco Partners Mktg. & Terminals L.P.*, IPR2020-00728, Paper 10, at 11–14 (PTAB Oct. 1, 2020) (finding overlap between primary references asserted in Petition and litigation weighed in favor of denial).

[6] *Available at* https://www.uspto.gov/sites/default/files/documents/guidance_memo_on_interim_procedure_recission_20250324.pdf.

The Board has therefore discounted the significance of a *Sotera* stipulation as having "limited practical effect in reducing the overlapping efforts" because "a majority of the parties' work that would be done [] will also be required in the Litigation *regardless of whether we institute review*." *SAP Am., Inc. v. Cyandia, Inc.*, IPR2024-01495, Paper 13, at 8–9 (PTAB Apr. 7, 2025) (emphasis added). In the *SAP* proceeding, the Board found it significant that the petitioner asserted "an invalidity defense in the district court based on the public use or sale of [an alleged prior art] system," citing some of the same evidence used in the petition as support. *Id.* at 9. In such an instance, a *Sotera* stipulation does nothing "to ensure that *inter partes* review would be a 'true alternative' to the Litigation," and "Factor 4 weighs in favor of discretionarily denying institution" despite the stipulation. *Id*.

As in the *SAP* proceeding, Petitioner here has asserted invalidity theories in the parallel litigation based on allegedly "public use" or "on sale" prior art. Ex.2016 at 22, 100 (alleging obviousness based in part on Intel products). Petitioner's product-based obviousness grounds in the district court cite all three of the references common to both the Petition and the Lawsuits. *See id.* at 100 (citing Akasaka, Aoyama, and Hsu823). This overlap in the evidence cited in both proceedings undermines the intended benefit of a *Sotera* stipulation. *See SAP*, IPR2024-01495, Paper 13, at 9. Accordingly, "Petitioner's invalidity arguments in the district court are more expansive and include combinations of the prior art

asserted in these proceedings with unpublished system prior art, which Petitioner's stipulation is not likely to moot." *Motorola Solutions, Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19, at 4 (PTAB Mar. 28, 2025) (granting Director review and reversing panel decision granting institution).[7] Here, as in *Motorola*, "Petitioner's stipulation does not ensure that [this] IPR proceeding[] would be a 'true alternative' to the district court proceeding" and is therefore entitled to little (if any) weight. *Id.* at 3–4.

Independent of these flaws in Petitioner's reliance on its *Sotera* stipulation for purposes of the TSMC Lawsuit, that stipulation is also completely ineffective to eliminate the overlap with ***the UMC Lawsuit***. UMC's invalidity contentions incorporate by reference all prior art, and all prior art theories, in the Petition. Ex.2016 at 5. UMC has not sought joinder to this proceeding (or to any of the proceedings on Petitioner's co-pending IPR Petitions). Nor has UMC stipulated to any limitation on the invalidity grounds it may pursue in the UMC Lawsuit. Petitioner's stipulation only promises that "***Petitioner*** will not pursue" certain grounds "in the related district court proceeding," Petition at 111 (emphasis added), and therefore does nothing to mitigate the duplicative effort and risk of conflicting

[7] *See Ingenico Inc. v. Ioengine, LLC*, No. 2023-1367, 2025 U.S. App. LEXIS 10956, at *17 (Fed. Cir. May 7, 2025) ("IPR estoppel does not preclude a petitioner from relying on the same patents and printed publications as evidence in asserting a ground that could not be raised during the IPR, such as that the claimed invention was known or used by others, on sale, or in public use.").

decisions that arise from the parallel UMC Litigation. Petition at 111 (emphasis added). For this reason, also, Petitioner's stipulation fails to ensure this proceeding would be a "true alternative" to the district court litigation, and the stipulation should be given little or no weight in the Factor 4 analysis.

5. *Fintiv* Factor 5 Favors Discretionary Denial

Fintiv Factor 5—namely, "whether the petitioner and the defendant in the parallel proceeding are the same party," *Fintiv I*, at 6—clearly weighs in favor of the Board exercising its discretion to deny institution.

Petitioner is the defendant named in the TSMC Lawsuit. Petition at 112; Ex.2001 ¶ 2. Trial in the TSMC Lawsuit is scheduled to occur four months before the projected deadline for a final written decision in this proceeding. Ex.2008 (ECF 83). Under these circumstances, "factor 5 generally follows factor 2, such that this factor 'favors denial if trial precedes the Board's Final Written Decision.'" *Nikon Corp. v. Optimum Imaging Tech., LLC*, IPR2024-01374, Paper 19, at 23 (PTAB April 29, 2025) (quoting *Huawei Tech. Co. v. WSOU Inv., LLC*, IPR2021-00225, Paper 11, at 14 (PTAB June 14, 2021) (internal quotation marks omitted)); *see Fintiv II*, at 15 ("Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial."); *Samsung Elecs. Co. v. Clear Imaging Research, LLC*, IPR2020-01401, Paper 12, at 21–22 (PTAB Feb. 17, 2021) (same). Moreover, the existence of even more parallel

litigation to which Petitioner is not a party—the UMC Lawsuit, specifically—does not diminish the weight that should be given the TSMC Lawsuit under Factor 5. *See LG Energy Solution, Ltd. v. Molecular Rebar Design, LLC*, IPR2024-01005, Paper 9, at 34 (PTAB Dec. 16, 2024) (finding Factor 5 weighs in favor of discretionary denial where case against Petitioner was consolidated with another case against a different party).

Petitioner does not dispute that it is the defendant in the TSMC Case. It nevertheless asserts without explanation that this factor is "neutral." Petition at 112. The Board should reject this unjustified assertion, as it has done in similar cases. *See Sotera*, IPR2020-01019, Paper 12, at 19 (precedential); *Samsung Elecs. Am., Inc. v. Collision Commnc'ns, Inc.*, IPR2025-00011, Paper 12, at 23 (PTAB Apr. 28, 2025) ("There is no dispute that the parties are the same in both proceedings. Petitioner nonetheless argues that Factor 5 is neutral. . .. We agree with Patent Owner that Factor 5 favors denial."); *Solus*, IPR2024-01463, Paper 14, at 17 ("To the extent that trial in the district court may precede the deadline for a final written decision in this proceeding, this factor favors exercising our discretion to deny institution."); *Liberty Energy, Inc. v. U.S. Well Servs., LLC*, IPR2025-00031, Paper 9, at 16 (PTAB Apr. 29, 2025) ("Petitioner is the Defendant in the District Court Litigation, and the parties agree *Fintiv* factor 5 therefore weighs in favor of denying institution."); *Nokia of Am. Corp. v. Pegasus Wireless Innovation LLC*, IPR2025-

00037, Paper 14, at 14 (PTAB Apr. 25, 2025) ("We find this factor weighs in favor of exercising our discretion because the parties involved in this proceeding and the district court litigation at issue are the same.").

6. *Fintiv* Factor 6 Favors Discretionary Denial

Fintiv Factor 6—namely, "other circumstances that impact the Board's exercise of discretion, including the merits," *Fintiv I*, at 6—weighs strongly in favor of the Board exercising its discretion to deny institution. First, not only does the Petition fail to make a compelling challenge on the merits, it contradicts Petitioner's invalidity contentions in the district court, exacerbating the risk of conflicting decisions. Second, settled expectations of the parties favor discretionary denial because the '686 patent has been in force for over a decade, and Petitioner became aware of it before the parallel litigation, yet declined to challenge it. Third, accurately determining the invention date of the '686 patent—as is necessary to determine whether two critical references cited in the Petition, Aoyama and Hsu823, are prior art—requires third-party discovery from foreign custodians in Japan, which the district court is best suited to facilitate. Fourth, the complexity of the dispute favors the district court as a single forum that can resolve all issues among all parties in one consolidated proceeding. All of these circumstances contribute to this factor weighing in favor of discretionary denial.

a) The merits of the Petition are far from compelling, and Petitioner's positions here are inconsistent with those in the parallel proceeding

Under *Fintiv*, the "strengths or weaknesses regarding the merits" may be "consider[ed] as part of [the Board's] balanced assessment." *Fintiv I*, at 15–16. This means that the relative strength or weakness of the Petition's showing must be balanced against the weight given to the other *Fintiv* factors. *See id.* at 15 n.29 (noting prior institution "when 'the strength of the merits ***outweigh relatively weaker*** countervailing considerations of efficiency'") (emphasis added) (quoting *Illumina, Inc. v. Natera, Inc.*, IPR2019-01201, Paper 19, at 8 (PTAB Dec. 18, 2019)). Importantly, "if the merits of the grounds raised in the petition are a closer call, then that fact has ***favored denying institution*** when other factors favoring denial are present." *Id.* at 15 (emphasis added). Stated slightly differently, the merits are not "compelling or particularly strong" if Patent Owner raises "issues and concerns" that "warrant further development if trial were to be instituted." *Arashi Vision*, IPR2025-00017, Paper 11, at 15–16.

Here the merits are far from compelling. The '686 patent teaches very specific integrated-circuit designs that improve NMOS and PMOS transistor performance in CMOS semiconductor devices. The Petition advances no

anticipation theory as to the extant[8] claims, in part because none of the Petition's alleged prior art references discloses the claimed structure wherein the "silicon nitride film causes first stress in a gate length direction of a channel region in the first active region," a limitation found directly or by dependency in claims 25–35. The Petition therefore seeks to combine its primary references with Hsu823 to attempt to fill that gap. But this argument fails for several reasons. First, the Petition admits that both its primary Ground 1 reference (*i.e.*, Aoyama) and its secondary reference for both grounds (*i.e.*, Hsu823) are not prior art under Section 102(b). Petition at 11–13. All grounds fail if the '686 patent's invention date precedes Hsu823's filing date. Second, the Petition itself admits key facts showing why a person of skill in the art would not have applied a tensile silicon nitride film in the context of the '686 patent. Moreover, the Petition ignores disclosures in its references, including Hsu823, that teach away from employing a tensile film in the '686 patent's claimed transistors. Patent Owner will further detail the Petition's flaws in its Preliminary Response.

Although these weaknesses in the Petition preclude a finding of compelling merits, there is more. The Petition's theories are further undermined by Petitioner's

[8] As explained in Section IV.A.4 *supra* addressing *Fintiv* Factor 4, the Petition challenges all claims in the '686 patent rather than just the asserted claims in the Lawsuits, presumably with a goal of undercutting the "substantial overlap" between the invalidity theories in the Lawsuits and

own invalidity contentions. Petitioner asserts in the district court that "[t]he asserted claims are invalid for failure to comply with the [] enablement requirement[] because the Patents-in-Suit . . . do not provide a sufficiently enabling disclosure." Ex.2016 at 274. As one notable example, Petitioner contends in the litigation that the '686 patent does not enable the limitation in claim 25 that "the silicon nitride film causes first stress in a gate length direction of a channel region in the first active region." *Id.* at 279.

This assertion undermines the Petition's theories. Petitioner must show here that the challenged claims ***are enabled*** by the prior art. *Raytheon Techs. Corp. v. GE*, 993 F.3d 1374, 1380 (Fed. Cir. 2021) ("To render a claim obvious, the prior art, taken as a whole, must enable a skilled artisan to make and use the claimed invention."). To that end, Petitioner argues in this proceeding that "it would have been well within a POSITA's ability to create such a tensile silicon nitride CESL film simply by adjusting deposition conditions." Petition at 49. But if those techniques were known in the art, as Petitioner asserts here, they need not have been disclosed by the '686 patent to be enabled. *See McRO, Inc. v. Bandai Namco Games Am., Inc.*, 959 F.3d 1091, 1102 (Fed. Cir. 2020) ("[A] patent need not teach, and preferably omits, what is well known in the art."). Thus, Petitioner's assertion that

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the Petition. Patent Owner is eliminating Petitioner's argument by disclaiming all unasserted independent claims in the '686 patent as well as their dependent claims.

one of the key limitations in claim 25—namely, that the "silicon nitride film causes first stress in a gate length direction of a channel region in the first active region"—is not enabled (for purposes of Petitioner's Section 112 defense in the district court) undermines any argument that the prior art enables that limitation (for purposes of the Petition's obviousness theories).

Petitioner makes no attempt to explain how, if its lack of enablement challenge succeeds in the district court, the Petition's obviousness theories could have merit. By advancing positions in this proceeding that conflict with its positions in the district court, Petitioner increases the likelihood of conflicting outcomes between the two proceedings. One purpose of discretionary denial is to avoid such conflicts between the USPTO and federal courts. *See, e.g., Fintiv I*, at 12; *see also Cisco Sys., Inc. v. Ramot at Tel Aviv University Ltd.*, IPR2020-00123, Paper 14, at 10 (PTAB May 15, 2020) (recognizing that "the possibility of conflicting decisions" tends to favor discretionary denial). Petitioner's inconsistent positions thus not only undermine a finding of compelling merits but also increase the risk of conflicting decisions, both of which weigh in favor of exercising discretion to deny the Petition, independent of other circumstances considered under Factor 6.

b) Settled expectations favor denial

"[S]ettled expectations favor denial of institution" here because Petitioner has been aware of the '686 patent since at least 2023, yet it waited to seek *inter partes*

review (or otherwise challenge the patent) until after being sued for infringement. *See iRhythm Techs., Inc. v. Welch Allyn, Inc.*, IPR2025-00363, -374, -376, -377, -378, Paper 10, at 3 (U.S. Pat. & Trademark Off. June 6, 2025) (Acting Dir. C.M. Stewart) (granting request for discretionary denial and denying institution). Indeed, this consideration has been found to outweigh multiple other factors weighing against discretionary denial, including all of Factors 1–3. *See id.* at 2–3 (noting the trial date, minimal investment in the litigation, and likelihood of stay all weighed against discretionary denial).

The ’686 patent has been in force since June 12, 2012—over a decade. Ex.1001 at (45). Petitioner had constructive knowledge of the ’686 patent some time before November 9, 2023. At that time, Petitioner filed a German patent application (DE 10 2014 119 124 B4) citing U.S. Published Patent Application No. 2010/0072523 A1, which had previously issued as the ’686 patent. *See* Ex.1001 at (65); Ex.2025 at (56). More importantly, in the Background section of this German application, Petitioner specifically discussed the prior publication of the ’686 patent. Ex.2025 at [0003]. Petitioner’s German application claims priority to a 2014 U.S. Application, *id.* at (30), which issued in November 2015 as U.S. Patent No. 9,196,708. Ex.2026 at (21). Because Petitioner’s patent does not cite the ’686 patent or its prior publication, *see id.* at (56), Petitioner appears to have learned about the ’686 patent sometime between November 2015 and the time when Petitioner

prepared its German application. The ’686 patent was already in force before that time, Ex.1001 at (45), and Petitioner understood the ’686 patent’s subject matter well enough to recognize its relevance to Petitioner’s own application, *see* Ex.2025 at [0003]. Despite Petitioner’s actual knowledge of the published application—and its at least constructive knowledge of the ’686 patent—during that time, Petitioner did not file its Petition until March 28, 2025, years later. *See* Petition at 103.

The petitioner in *iRhythm* similarly discovered one of the patents challenged in those proceedings during prosecution on the petitioner’s own patent application. IPR2025-00363, -374, -376, -377, -378, Paper 10, at 3. And, as here, the challenged patent had been in force since “as early as 2012.” *Id.* This case differs from *iRhythm* because, here, the other *Fintiv* factors ***all weigh in favor of discretionary denial*** whereas they did not in *iRhythm*. *Compare id.* at 2 *with* Sections IV.A.1–5, *supra*. Thus, consistent with the determination in *iRhythm*, the Director (or the Board as her delegee) should exercise discretion to deny institution based in part on the need to protect settled expectations.

Moreover, the advanced age of the ’686 patent weighs against institution. The Director’s most recent decisions recognize that discretionary denial is even more appropriate for older patents because “[e]arly challenges to patents favor robust, predictable patent rights and weigh against discretionary denial.” *Tesla, Inc. v. Charge Fusion Techs., LLC*, IPR2025-00152, Paper 11, at 3 (U.S. Pat. &

Trademark Off. June 12, 2025) (Acting Dir. C.M. Stewart); *Merck Sharp & Dohme LLC v. Halozyme, Inc.*, PGR2025-00006, Paper 29, at 2 (U.S. Pat. & Trademark Off. June 12, 2025) (Acting Dir. C.M. Stewart). The '686 patent claims February 13, 2009 as its earliest effective United States filing date and is therefore scheduled to expire in 2029, just four years from now. Because the '686 patent is already nearing expiration, this tends to weigh in favor of discretionary denial.

c) Foreign third-party discovery needs favor denial

The relevance of foreign third-party discovery in Japan renders the district court a far more efficient forum for resolving the pending invalidity challenges. Indeed, it is uncertain whether institution in this proceeding would afford Patent Owner its Constitutional due process protections.

As the Petition concedes, its primary reference for its first ground (*i.e.*, Aoyama) and a secondary reference cited in every ground against the remaining claims (*i.e.*, Hsu823) are not Section 102(b) prior art but rather only "prior art under pre-AIA §102(a), (e)." Petition at 11, 13. This type of art is only ***presumptively*** prior art because it can potentially be "antedated" using evidence to "swear behind" the date of the reference. *In re Zletz*, 893 F.2d 319, 323 (Fed. Cir. 1989) (recognizing that a reference "under 35 U.S.C. § 102(e) [pre-AIA] . . . can be antedated"); *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1576 (Fed. Cir. 1996) (similar for a Section 102(a) (pre-AIA) reference). Thus, if the Board institutes

proceedings, Patent Owner should be afforded an opportunity to investigate whether the ’686 patent’s invention date precedes Aoyama’s and/or Hsu823’s filing dates, thereby eliminating one or more grounds as bases for invalidity.

As reflected on the face of the ’686 patent, the named inventors and former assignee reside in Japan. Ex.1001 at (73), (75). Although the Board can oversee the issuance of a subpoena by a district court, *see* 35 U.S.C. § 24, a subpoena on foreign entity “must be served by an internationally agreed means of service . . . such as those authorized by the Hague Convention.” *Hake v. Citibank, N.A.*, 2020 U.S. Dist. LEXIS 52782, at *24 (S.D.N.Y. Mar. 26, 2020). However, “Japan is not a signatory to the Hague Convention.” *Image Processing Techs., LLC v. Canon, Inc.*, 2011 U.S. Dist. LEXIS 167076, at *4–5 (E.D.N.Y. Sep. 13, 2011). Accordingly, a subpoena addressed to a Japanese company (or person) will be quashed as being “in direct contravention of the evidentiary treaty between the United States and Japan.” *Fujikura Ltd. v. Finisar Corp.*, 2015 U.S. Dist. LEXIS 135871, at *21 (N.D. Cal. May 14, 2015). Thus, the Board’s subpoena power is inadequate to secure this important discovery.

Rather than using a subpoena, a party seeking discovery from a person or entity in Japan “is obligated to proceed through consular officials to obtain documentary discovery” or through “a letter rogatory pursuant to the court’s inherent authority to do so.” *Id*. Patent Owner is unaware of any statutory basis for

the Board to oversee discovery through consular officials or letters rogatory. Moreover, even if the Board has power to oversee such discovery, the district court is better suited to do so because of its relative expertise in third-party discovery, including from foreign entities. *Cf. TCO AS v. NCS Multistage Inc.*, PGR2020-00077, Paper 16, at 20 (PTAB Feb. 18, 2021) ("Even assuming that extraterritorial discovery is unnecessary, it appears that third-party discovery is required. . . . Institution in these circumstances raises concerns of inconsistent outcomes, which does not favor institution.").

d) The complexity of the proceedings favor denial in deference to the district court

Efficiency favors the district court as the forum that can address ***all*** validity issues at the ***same time*** in a ***single*** proceeding that binds ***all*** relevant parties. Under similar circumstances, the Board has found that the sixth *Fintiv* factor weighed in favor of denial because "resolution of all of the disputes based on all of the issues between the parties regarding the challenged patent before the district court . . . would be more efficient and, therefore, weighs in favor of exercising discretion to deny institution of *inter partes* review." *Nokia*, IPR2025-00037, Paper 14, at 15. In *Nokia*, there were 11 patents, each subject to a single IPR petition filed by multiple petitioners involved in three parallel district court cases. *See id.* at 2–3. The IPRs were filed over three or four months, resulting in final written decision deadlines

spread out over a period of about five months. *Id.* at 14. In this case, by comparison, there are seven patents subject to fourteen petitions filed over a similarly long period of time. *See* Section II.C, *supra*.

The district court has already consolidated the Lawsuits for all pretrial issues, and the consolidated action is progressing on pace toward a June 2026 trial date. This will permit the district court to adjudicate ***all*** invalidity disputes—*e.g.*, obviousness, anticipation enablement, written description, and indefiniteness—asserted by either Petitioner or UMC across ***all seven*** patents. And importantly, unlike the Board's decision on this Petition, that resolution will bind all parties, including UMC. Among the invalidity theories are Petitioner's and UMC's extensive invalidity contentions relying on prior art theories that fully incorporate the prior art references asserted against the same claims in the parties' respective IPR Petitions. *See* Section II.D, *supra*.

The district court has special tools available for managing multi-patent lawsuits (like the Lawsuits here) in an orderly manner that simplifies and streamlines the case and drives the resolution of the dispute as a whole. These tools include, for example, deadlines for narrowing the issues by requiring the litigants to make a "final election of Asserted Claims" and matching disclosure of "final invalidity theories" in advance of trial. Ex.2008 at 2, n.2.

The Board, by contrast, lacks the flexibility desirable for complex multi-

patent, multi-party disputes like this one. For example, the Board (if it institutes) must by statute adjudicate every ground with respect to every claim against which it is asserted. *See SAS Inst., Inc. v. Iancu*, 584 U.S. 357, 371 (2018); *AC Techs., S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1364 (Fed. Cir. 2019). Further, the statutory mandate to issue a final written decision within one year of institution would make it difficult to consolidate the Petition in this case with the corresponding UMC petition challenging the same patent because the two petitions were filed months apart. In short, the complexity of the dispute between the various parties would benefit from the flexible case management powers of an Article III court. This fact also favors the exercise of discretion to deny institution.

Petitioner may argue—erroneously—that *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217, Paper 9 (U.S. Pat. & Trademark Off. June 13, 2025) (Acting Dir. C.M. Stewart) favors institution. That case involved "eleven patents spanning nine different families that involve a diverse range of subject matter." *Id*. at 3. There, the Patent Office concluded that "the Board is better suited to review a large number of patents involving diverse subject matter." *Id*. This case is readily distinguishable from *Tesla*. Here, each of the relevant patents relates to a single category of subject matter—namely, MOSFET transistor design—and the Lawsuits involve just seven patents, four of which are in the same patent family. Indeed, the background technology sections of each of the Seven Petitions copy and paste

subject matter from one another.

V. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Board exercise its discretion to deny institution of the Petition pursuant to Section 314(a).

Dated: June 18, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing **Patent Owner's Discretionary Denial Brief Pursuant to the Board's March 26, 2025 Interim Processes for PTAB Workload Management, and accompanying Exhibits 2001-2029,** were served to the following counsel of record for Petitioners addressed as follows:

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 10,452 words.

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