

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

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EXHIBIT LIST

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

Exhibit	Description
EX2008	Third Amended Docket Control Order , Dkt. No. 83, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed April 9, 2025)
EX2009	Docket Sheet , <i>Advanced Integrated Circuit Process LLC v. Taiwan Semiconductor Manufacturing Company Limited</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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 <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed May 2, 2025)

Exhibit	Description
EX2015	Scheduling Order , Dkt. No. 28, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Case No. 2:24-cv-00730, (E.D. Tex. Filed December 11, 2024)
EX2016	Defendant TSMC’s Invalidation Contentions , <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)
EX2017	Defendant United Microelectronics Corporation’s Invalidation Contentions , <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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 <i>Inter Partes</i> Review , Dkt. No. 99, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed December 6, 2024)

Exhibit	Description
EX2023	Defendant Taiwan Semiconductor Manufacturing Company Limited’s Reply in Support of its Motion to Stay Pending <i>Inter Partes</i> Review , Dkt. No. 109, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , 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
EX2028	Exhibit 686-02 to Defendant TSMC’s Invalidation Contentions, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)
EX2029	Exhibit 686-04 to Defendant TSMC’s Invalidation Contentions, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Served May 1, 2025)
EX2030	EX1003 Declaration of Scott E. Thompson in IPR2023-01286
EX2031	TSMC’S Motion for Issuance of Letter Rogatory to Nuvoton Technology Corporation Japan , Dkt. No. 119, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed June 27, 2025)

Exhibit	Description
EX2032	Exhibit A to TSMC’S Motion for Issuance of Letter Rogatory to Nuvoton Technology Corporation Japan , Dkt 116-1, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623, (E.D. Tex. Filed June 20, 2025)
EX2033	FAQs for Intrim Processes for PTAB Workload Management from https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management
EX2034	Guidance on USPTO’s rescission of the “Intrim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation” from USPTO Memorandum dated March 24, 2025
EX2035	Lex Machina Time-to-Trial Statistics Report for trials before The Honorable Rodney Gilstrap, Federal District Judge in the Eastern District of Texas, during the period from July 1, 2024 to July 1, 2025
EX2036	DocketNavigator Time to Trial Report for trials before The Honorable Rodney Gilstrap, Federal District Judge in the Eastern District of Texas, during the period from July 12, 2024 to July 11, 2025

First, fatal to TSMC's opposition is its failure to dispute that, under the very unusual facts here, institution coupled with a stay would violate AICP's due process rights. TSMC does not dispute that Hsu823 is necessary to each of the Petition's grounds, earlier invention date evidence could eliminate all grounds, and the PTAB (unlike the district court) cannot secure this discovery because it is in Japan, which is not a signatory to the Hague Convention.

Instead, TSMC pivots to misstatements and speculation. The local Patent Rule TSMC quotes requires disclosure of a "priority date" for priority claims "to an earlier application," not an earlier *invention* date, as TSMC implies. Opp. at 52 (quoting E.D. Tex. P.R. 3-1(e)). Even if that were required, amendments are permitted for "good cause," E.D. Tex. P.R. 3-6(b), such as discovery of new relevant evidence. *See Coopervision, Inc. v. CIBA Vision Corp.*, 480 F. Supp. 2d 884, 889 (E.D. Tex. 2007). Moreover, TSMC itself has already sought this evidence in the district court, reflecting its significant relevance. *See* EX2031 at 4; EX2032 at 3, 17. TSMC's failure to mention this, while faulting AICP for supposed inaction, Opp. at 52, is misleading if not dishonest. And TSMC's remaining arguments amount to mere speculation that foreign third-party discovery will be unproductive.

Second, TSMC delayed filing its new stipulation until a month after AICP's discretionary denial brief, contravening guidance to file such a stipulation "as soon as practicable, so that a patent owner may address [its] impact [in its brief]."

EX2033 at 5. Given its vaunted experience filing IPRs, *see, e.g.*, Opp. at 43, 54–55, TSMC surely knew how to draft a stipulation that eliminated the risk of duplicative litigation. Instead, it filed a narrow stipulation with its Petition, Pet. at 101, and switched to a broader stipulation (in coordination with fellow IPR petitioner UMC) only *after* reviewing AICP’s *Fintiv* arguments. EX1083; EX1084.

The timing and the coordination together reveal TSMC’s attempt to game the outcome of the discretionary denial process. This defeats the purpose of timely filing stipulations, *i.e.*, promoting efficiency (both here and in the district court). Indeed, TSMC’s “strategy” has already reduced the efficiency of the bifurcated discretionary denial process by requiring additional briefing. Giving the stipulation full weight at this late stage will only encourage TSMC and other parties to similarly ignore USPTO guidance and delay their stipulations. Such gamesmanship should instead be discouraged, and the stipulation should be given little weight.

Further, the late-breaking stipulation is carefully limited in scope to “pending” litigation, EX1083 at 2, meaning that TSMC can seek to avoid its effect in the event of any future litigation involving the ’686 patent (*e.g.*, if AICP files a future patent infringement suit or TSMC files a declaratory judgment suit).

Third, Factor 2 weighs in favor of discretionary denial, and TSMC’s contrary argument relies on data and analysis inconsistent with the USPTO’s guidance, which notes the Board may consider “*median* time-to-trial statistics.” EX2034 at 3

(emphasis added). As explained in AICP’s brief in a related IPR, the scheduled June 22, 2026 trial date is consistent with evidence that Judge Gilstrap had a median time to trial last year of about 22 months. *See* EX2035 at 1; IPR2025-00828, Paper 8 at 22. TSMC addresses the *median* for the district as a whole—which is less accurate than the metric for the presiding judge—but then pivots without explanation to discussing the *average* time to trial in Judge Gilstrap’s court. *Opp.* at 8, 18–20; EX1056 (average statistics). TSMC relies on DocketNavigator, EX1056, yet even DocketNavigator suggests a median time to trial of 24 months for TSMC’s time range (further supporting an earlier district court trial date). EX2036. Furthermore, TSMC’s discussion of other factors that might delay trial is mere speculation, and is in any event baked into the median time-to-trial statistics. *See Opp.* at 17–23.

Fourth, TSMC fails to show material error by the Examiner. The Petition asserts that the Examiner made a material error only with respect to anticipation of claims 19–22 by Aoyama. *Pet.* at 100–01; *see id.* at 17–34. Those claims have since been disclaimed, so the error alleged in the Petition is now irrelevant. *See* 37 C.F.R. § 42.107(e). TSMC therefore pivots to faulting the Examiner for failing to combine Aoyama with a strained-silicon technique that TSMC alleges was “thoroughly well-known.” *Opp.* at 48. TSMC identifies only a single reference, however, that allegedly teaches using a contact etch stop layer (“CESL”) to apply stress that was before the Examiner. *Id.* at 48–49 (citing EX1019). Yet even TSMC admits that this

reference warns of problems when combining stressed CESLs with the “gate-last approach” employed in Aoyama, *id.* at 48 n.12, an acknowledgement that the reference teaches away from the Petition’s combination. *Accord* Paper 9, at 17–22. The fact that Exhibit 1019 teaches reasons not to combine its disclosure with Aoyama refutes TSMC’s claim of a “material error” by the Examiner. There is also no evidence that any of TSMC’s other “exemplary” references fare any better.

TSMC also relies on an improper inference from AICP’s statutory disclaimer of claims 1–24 in the ’686 patent by arguing, “if claim 8 or 9 is invalid, so is claim 25.” Opp. at 36. But claims 8 and 9 have not and will not be found invalid ***because they have been disclaimed.*** See 37 C.F.R. § 42.107(e). Disclaiming less than all challenged claims is also not an “adverse judgment,” as TSMC implies. Opp. at 44 (citing 37 C.F.R. § 42.73(b)). Rather, TSMC’s assertion that claims 8 and 9 are even narrower than claim 25, coupled with AICP’s defense of claim 25, confirms that AICP disclaimed claims “to eliminate non-overlapping issues.” Paper 6, at 27.

Fifth, TSMC fails to support its claim of “settled expectations” to continue infringing the ’686 patent, let alone that this trumps AICP’s settled expectations regarding validity. Opp. at 38–39. TSMC cites *Intel Corp. v. Proxsense LLC*, IPR2025-00327, Paper 12 (June 26, 2025), but omits text that lists “commercializ[ing]” as one of the ways in which a patent may be “applied.” *Id.* at 2. TSMC admits the accused technology was commercialized in October 2011.

Opp. at 38. Thus, the situation envisioned by *Intel* is absent. The fact that TSMC began manufacturing the accused products between the filing and issuance of the '686 patent affords TSMC no “settled expectation” to keep selling infringing goods. *See id.* TSMC also suggests AICP should not be entitled to the benefit of its predecessors’ settled expectations based on TSMC’s pejorative description of AICP’s business model. *Id.* at 39–40. But a patentee may legitimately derive value by selling its patent for enforcement. Treating patent purchasers (like AICP in this case) as inferior to sellers undermines the market value of patents, weakening the incentive to innovate.

Sixth, TSMC’s alleged significance to U.S. interests, broadly, is irrelevant to this specific case. TSMC never supports its claim that the accused products are “furthering vital U.S. national interests and Administration policies.” Opp. at 54. Rather, TSMC touts the billions it has *recently* invested in *advanced* facilities, *id.* at 55–57, while saying the accused technology “went into volume production by October 2011,” *id.* at 38, with “a new generation of technology [] brought to market every two years, *id.* at 52. There is no evidence that the old, accused technology has any significance to the national interest, and the '686 patent presents no risk of disruption because AICP will not seek injunctive relief. The patent system best serves national interests by encouraging innovation, not (as TSMC suggests) by giving special treatment to politically connected infringers. Opp. at 53–54.

Dated: July 28, 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 Reply to Petitioner’s Opposition to Patent Owner’s Discretionary Denial Brief, including Exhibits 2031-2036**, was served to the following counsel of record for Petitioner addressed as follows:

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