

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 IPR2025-00830

Patent 8,253,180

**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 July 7, 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)
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.

Exhibit	Description
	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)
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 Invalidity 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 Invalidity 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 July 11, 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)

Exhibit	Description
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)
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	Exhibit 180-01 to Defendant TSMC’s Invalidity 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)
EX2026	Exhibit 180-02 to Defendant TSMC’s Invalidity 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)
EX2027	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
EX2028	Notice of Allowance in TSMC’s U.S. Patent Application Ser. No.

Exhibit	Description
	12/757,241 (May 24, 2012)
EX2029	RESERVED
EX2030	Notice of Allowance in TSMC’s U.S. Patent Application Ser. No. 17/027,032 (November 24, 2023)
EX2031	Redaction to TSMC’s Sealed Motion for Issuance of Letter Rogatory for 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)
EX2032	Exhibit A to TSMC’s Sealed Motion for Issuance of Letter Rogatory for Nuvoton Technology Corporation – Japan , Dkt. No. 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	Exhibit B to TSMC’s Sealed Motion for Issuance of Letter Rogatory for Nuvoton Technology Corporation – Taiwan , Dkt. No. 114-2, <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)
EX2034	Redaction to TSMC’s Sealed Motion for Issuance of Letter Rogatory for Nuvoton Technology Corporation – Taiwan , Dkt. No. 118, <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)
EX2035	Recorded Assignment from Panasonic Corporation to Panasonic Semiconductor Solutions Co., Ltd. (May 21, 2020)
EX2036	Recorded Assignment by Change of Name from Panasonic Semiconductor Solutions Co., Ltd. to Nuvoton Technology Corporation Japan
EX2037	Exhibit 180-03 to Defendant TSMC’s Invalidity 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)
EX2038	Bashir, R., et al. , “Reduction of Sidewall Defect Induced Leakage Currents by the Use of Nitrided Field Oxides in Silicon Selective Epitaxial Growth Isolation for Advanced Ultralarge Scale Integration,” 18(2) J. Vac. Sci. Technol. B 695–699 (2000).

Exhibit	Description
EX2039	Reserved
EX2040	Order Granting to Taiwan Semiconductor Manufacturing Company Ltd.’s Motion for Letters Rogatory to Nuvoton Technology Corporation (Letter Rogatory No. 1), Dkt. No. 122, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623 (E.D. Tex. Filed July 25, 2025)
EX2041	Order Granting to Taiwan Semiconductor Manufacturing Company Ltd.’s Motion for Letters Rogatory to Nuvoton Technology Corporation (Letter Rogatory No. 2), Dkt. No. 123, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623 (E.D. Tex. Filed July 25, 2025)
EX2042	Docket Navigator 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 August 18, 2024 to August 18, 2025
EX2043	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 August 18, 2025
EX2044	FAQs for Interim Processes for PTAB Workload Management from https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management
EX2045	Defendant TSMC Ltd.’s Answer , Dkt. No. 753, <i>Advanced Integrated Circuit Process LLC v. United Microelectronics Corporation</i> , Consolidated Case Nos. 2:24-cv-00730, -00623 (E.D. Tex. Filed March 31, 2025)

First, the factors meriting discretionary denial in *Taiwan Semiconductor Manufacturing Company Ltd v. Advanced Integrated Circuit Process LLC*, IPR2025-00682 and IPR2025-00683, Paper 17 (PTAB Aug. 14, 2025) (Acting Dir. C.M. Stewart) [hereinafter, “*TSMC Denial*”], also justify discretionary denial here. There, as here, “it is unlikely that a final written decision in [the subject] proceedings will issue before district court trial [scheduled for June 2026] occurs.” *Id.* at 2. Because that was true for a final written decision projected on October 18, 2026, *id.*, it is *a fortiori* true for the November 13, 2026 date projected in this proceeding. Also, the ’180 patent is about 13 years old, *see* EX1001 at (45), and thus gives rise to the same “strong settled expectations,” *see TSMC Denial*, at 2.

TSMC’s counter arguments have already been considered and rejected. The scheduled June 2026 trial date accords with statistical evidence from Lex Machina and Docket Navigator, EX2043 at 1; EX2042, but TSMC again argues from different data that the **maximum** delay could be seven months, *i.e.*, a January 2027 trial date. Opp. at 54 (citing EX1152 at 3). The Director considered the possibility of a January 2027 trial date and still discretionarily denied. *TSMC Denial*, at 2. The Director also rejected TSMC’s claim of “settled expectations” to continue infringing the ’180 patent based on the absence of earlier enforcement. *See id.* at 2–3.

The discretionary denial of IPR2025-00682 and -683 means that the district

court will not grant a stay in the Lawsuits. *See, e.g., 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) (“It 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.”).

Second, fatal to TSMC’s opposition is its failure to dispute that, under the very unusual facts here, institution would violate AICP’s due process rights. TSMC does not dispute that Guha is necessary to Grounds 8–10, earlier invention date evidence could eliminate those grounds, and the PTAB (unlike the district court) cannot secure this discovery because Japan is not a signatory to the Hague Convention. Indeed, TSMC seeks this evidence in the district court, reflecting its relevance. *See* EX2031 at 4; EX2032 at 3, 17. Those motions have been granted. EX2040; EX2041. TSMC’s failure to mention this, while faulting AICP’s supposed inaction, *Opp.* at 67–68, is misleading if not dishonest. TSMC’s other arguments merely speculate that the discovery will be unproductive.

Third, TSMC delayed filing its new stipulation until after AICP’s *Fintiv* brief, contravening guidance to file “as soon as practicable, so that the patent owner may address [its] impact [in its brief].” EX2044 at 3. Given its vaunted experience filing IPRs, *see, e.g., Opp.* at 46, 69, TSMC knew how to draft a stipulation that eliminated the risk of duplicative litigation. Instead, it filed one stipulation with its

Petition, Pet. at 104–05, and switched to a broader stipulation (in coordination with co-petitioner UMC) *after* reviewing AICP’s *Fintiv* arguments. EX1053; EX1084.

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

Fourth, TSMC asserts that AICP’s predecessor engaged in “unfair dealings” with the USPTO. TSMC alleges the failure to disclose certain prosecution details related to references from Japanese and Chinese counterparts of the ’180 patent. Opp. at 32–35. Notably, TSMC has never made a similar allegation, or asserted inequitable conduct, in the parallel proceeding. EX2045. Moreover, TSMC never identified any evidence of deceptive intent, Opp. at 30–35, which TSMC’s own authority recognizes as a requirement. *See Am. Calcar, Inc. v. Am. Honda Motor Co.*, 768 F.3d 1185, 1190 (Fed. Cir. 2014) (noting that “partial disclosure” may not negate intent “*if the disclosure is intentionally selective*” (emphasis added)).

Fifth, TSMC’s Petition asserted only that the Examiner erred by overlooking Matsumoto and Ono during prosecution, though the Petition only cited Ono’s

relevance to dependent claims. Pet. at 105. But Matsumoto-185 does not disclose all the limitations of claim 1. *See* Paper 8 at 35–37. Recognizing its flawed argument, TSMC now pivots to arguing several new alleged errors, including overlooking Ono (for claim 1), Opp. at 9–10, and the foreign prosecution references, *id.* at 10–15, none of which the Petition identified as the basis for a material error. Pet. at 105.

AICP’s Preliminary Response showed why all Petition Grounds fail. Paper 10 at 25–50. While TSMC labels AICP’s response regarding Guha and Matsumoto as the “fabricated ‘in’ versus ‘on’ argument,” Opp. at 19, those two words have different meanings. TSMC concedes that Guha teaches “the active device region is formed in channel layer 3” rather than in “substrate 1.” *Id.* at 21 (emphasis added). And TSMC concedes that in Matsumoto “source/drain regions 10 are formed in the silicon layer 3” rather than in “silicon substrate 1.” *Id.* at 22 (emphasis added). As AICP predicted, Paper 10 at 27–28, after initially refusing to offer any claim construction, Pet. at 17, TSMC now belatedly asserts one, Opp. at 20–21. This should be rejected for the reasons provided. Paper 10 at 27–28. For Kamata, TSMC concedes by omission that, under AICP’s proposed claim construction, the Grounds based on Kamata fail. Opp. at 25–29. Unlike for Guha and Matsumoto, TSMC’s Kamata analysis ignores AICP’s Preliminary Response (and all the intrinsic evidence supporting the AICP’s claim construction). *Id.* It was TSMC’s burden to locate references teaching the claimed invention. TSMC defaulted on that burden.

Sixth, TSMC’s alleged significance to U.S. interests, broadly, is irrelevant to this case. TSMC fails to substantiate its claim that the accused products have an allegedly “extraordinarily broad impact . . . on the U.S. national security, economy, innovation, and public interest.” Opp. at 41. TSMC’s claim that AICP accused “military-grade products” lacks any evidence that those specific chips are used by the *U.S.* military. *Id.* at 42–43. Moreover, the alleged importance of “high-performance chips” and “advanced processors” to the “American AI-dominance strategy” suggests that the accused technology is *not* implicated. *Id.* at 45; *see id.* at 36 (“[T]he [accused] product went into volume production by at least October 2011.”). There is no evidence that the old, accused technology has any significance to the national interest, and the ’180 patent presents no risk of disruption because AICP will not seek injunctive relief. What TSMC requests here—namely, special treatment for large foreign companies accused of infringing U.S. patents based solely on those companies’ size, influence, and products—would not only open the floodgates to similar arguments by numerous foreign products manufacturers who are infringing American intellectual property rights but also undermine domestic investment in the development of new technologies. The patent system best serves national interests by encouraging innovation, not (as TSMC suggests) by giving special treatment to politically connected infringers. Opp. at 42–45.

Dated: August 19, 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 2040-2045**, was served to the following counsel of record for Petitioner addressed as follows:

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Dated: August 19, 2025

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