

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD. and
APPLE INC.,
Petitioners,

v.

MARLIN SEMICONDUCTOR LTD.,
Patent Owner.

Case IPR2025-00879
Patent No. 9,093,473

PETITIONERS' UPDATED EXHIBIT LIST

Pursuant to 37 C.F.R. § 42.63(e), Petitioners Taiwan Semiconductor Manufacturing Company Ltd. and Apple Inc. hereby submit a current listing of Petitioners' exhibits. Exhibits 1044-1056, 1100-1114, 1116-1133, 1139-1147, 1150-1189, and 1191-1197 are being filed today.

Exhibit	Description
1001	U.S. Patent No. 9,093,473 (“473 Patent”).
1002	Prosecution History for U.S. Patent No. 9,093,473 (“File History”).
1003	Declaration of Dr. Eugene Fitzgerald, Ph.D.
1004	U.S. Patent Publication No. 2009/0309141 (“Okuno”).
1005	U.S. Patent Publication No. 2008/0251878 (“Mandelman”).
1006	U.S. Patent Publication No. 2006/0088968 (“Shin”).
1007	U.S. Patent Publication No. 2008/0142879 (“Chong”).
1008	S.M. Sze, <i>Physics of Semiconductor Devices</i> . (2d ed. 1981) (excerpted) (“Sze”).
1009	J.D. Plummer et al., <i>Silicon VLSI Technology: Fundamentals, Practice and Modeling</i> (2000) (excerpted) (“Plummer”).
1010	Excerpts from C.Y. Chang & S.M Sze, <i>ULSI Technology</i> (1996) “Chang/Sze.”
1011	U.S. Patent Publication No. 2006/0118878 (“Huang”).
1012	U.S. Patent Publication No. 2010/0159685 (“Chuang”).
1013	Excerpts from S. Wolf, <i>Silicon Processing for the VLSI Era, Vol. 1: Process Technology</i> , 2 nd Ed. (2000) (“Wolf1”).

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1014	Excerpts from S. Wolf, <i>Silicon Processing for the VLSI Era, Vol. 2: Process Integration</i> (1990) (“Wolf2”).
1015	Excerpts from S. Wolf, <i>Silicon Processing for the VLSI Era, Vol. 3: The Submicron MOSFET</i> (1995) (“Wolf3”).
1016	M. Quirk & J. Serda, <i>Semiconductor Manufacturing Technology</i> , Ch. 12: Metallization (2001) (excerpted) (“Quirk”).
1017	S.E. Thompson et al., “A 90-nm Logic Technology Featuring Strained-Silicon,” <i>IEEE Transactions on Electron Devices</i> , vol. 51, No. 11, pp. 1790-97 (Nov. 2004) (“Thompson2004”).
1018	U.S. Pat. Pub. No. 2006/0148151 (“Murthy151”).
1019	D. James, “2004 – The Year of 90-nm: A Review of 90 nm Devices,” 2005 IEEE/SEMI Advanced Semiconductor Manufacturing Conference, pp. 72-76 (2005) (“James”).
1020	U.S. Patent Publication No. 2006/0292783 (“Lee783”).
1021	U.S. Patent Publication No. 2008/0157119 (“Tsai”).
1022	U.S. Patent Publication No. 2006/0115949 (“Zhang”).
1023	U.S. Patent Publication No. 2004/0262683 (“Bohr”).
1024	B. J. Ginsberg, J. Burghartz, G. B. Bronner and S. R. Mader, “Selective epitaxial growth of silicon and some potential applications,” in <i>IBM Journal of Research and Development</i> , vol. 34, no. 6, pp. 816-827, Nov. 1990 (“Ginsberg”).
1025	P. Bai et al., “A 65nm Logic Technology Featuring 35nm Gate Lengths, Enhanced Channel Strain, 8 Cu Interconnect Layers, Low-k ILD and 0.57 μm^2 SRAM Cell,” <i>Technical Digest of the 2004 IEEE International Electron Devices Meeting (IEDM)</i> , pp. 657-60 (Dec. 2004) (“Bai”).
1026	U.S. Patent No. 6,287,904 (“Lee”).

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1027	U.S. Patent Publication No. 2003/0124847 (“Houston”).
1028	U.S. Patent Publication No. 2009/0023258 (“Liang”).
1029	U.S. Patent Publication No. 2009/0176069 (“Yang”).
1030	U.S. Patent No. 6,605,498 (“Murthy”).
1031	U.S. Patent Publication No. 2008/0199999 (“Weijtmans”).
1032	U.S. Patent Publication No. 2008/0128746 (“Wang”).
1033	U.S. Patent Publication No. 2005/0112817 (“Cheng”).
1034	U.S. Patent No. 6,137,126 (“Avanzino”).
1035	U.S. Patent Publication No. 2007/0284615 (“Ku”).
1036	U.S. Patent Publication No. 2005/0260806 (“Chang”).
1037	U.S. Patent Publication No. 2006/0223255 (“Chen”).
1038	U.S. Patent Publication No. 2004/0253776 (“Hoffman”).
1039	U.S. Patent Publication No. 2006/0172556 (“Bather”).
1040	U.S. Patent No. 6,727,558 (“Duane”).
1041	U.S. Patent Publication No. 2011/0039390 (“Nieh”).
1042	Declaration of Jodie W. Cheng in Support of Co-Petitioner TSMC’s Motion for <i>Pro Hac Vice</i> Admission.
1043	Declaration of Gyushik (Kevin) Jang in Support of Co-Petitioner TSMC’s Motion for <i>Pro Hac Vice</i> Admission.
1044	Search Report on Pat. App. No. 099/123,277 (Original).
1045	Search Report on Pat. App. No. 099/123,277 (English Translation).
1046	Pat. App. Pub. No. TW 2012/03377 (Original).

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1047	Pat. App. Pub. No. TW 2012/03377 (English Translation).
1048	Notice of Allowance and Fee(s) Due, U.S. Pat. App. No. 12/837,475 (May 23, 2014).
1049	Applicant Request for Reexamination (Original).
1050	Applicant Request for Reexamination (English Translation).
1051	Applicant Remarks after Reexamination (Original).
1052	Applicant Remarks after Reexamination (English Translation).
1053	Search Report on Pat. App. No. 099/123,277 (Original).
1054	Continuity data for U.S. Patent No. 9,093,473, Patent Center, United States Patent and Trademark Office.
1055	Listing of district court cases and inter partes review proceedings in which U.S. Patent No. 9,093,473 has been asserted or challenged, Docket Navigator.
1056	Search Report on Pat. App. No. 099/123,277 (English Translation).
1057-1099	Reserved.
1100	Institution Decisions for TSMC, based on Lex Machina data.
1101	<i>Certain Integrated Circuits With Voltage Regulators And Products Containing Same</i> , Inv. No. 337-TA-1024, USITC Order 55 (Aug. 31, 2018).
1102	<i>Certain Personal Computer/Consumer Electronic Convergent Devices, Components Thereof, And Products Containing Same</i> , Inv. No. 337-TA-558 (USITC Order 6 (Feb. 7, 2006).
1103	<i>Certain Unmanned Aerial Vehicles And Components Thereof</i> , Inv. No. 337-TA-1133, USITC Comm'n Op. (Sept. 8, 2020).

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1104	Jennifer Nall, <i>How delayed Notice of Date Accorded mailings may affect inter partes review</i> , DLA Piper (last visited Aug. 8, 2025), available at https://www.dlapiper.com/en/insights/publications/intellectual-property-news/2025/how-delayed-notice-of-date-accorded-mailings-may-affect-inter-partes-review .
1105	Memorandum from Scott R. Boalick to PTAB AIA Paneling re: Notice of Filing Date Accorded for AIA Petitions (July 18, 2025).
1106	Final Written Decision Outcomes for TSMC, available at https://law.lexmachina.com/party/ptab?filing_date-from=2012-09-16&filing_date-to=&final_decision_date-from=2013-07-17&final_decision_date-to=&new_trial_flow-exclude=PreI_AS&party_role-include=Petitioner&filters=true&id=26931&id=20676624&id=64431208&tab=ptab_trial_flow&view=analytics&cols=trial%2Cfiled%2Cinstitution_decision_date%2Cpatent%2Cpetitioners%2Cpatent_owners%2Ctrial_resolution%2Cfinal_decision_date .
1107	George Quillin, <i>PTAB Average Time-To-Decision in IPRs May Surprise You</i> , JDSupra (July 28, 2015) (last visited Aug. 8, 2025), available at https://www.jdsupra.com/legalnews/ptab-average-time-to-decision-in-iprs-71645 .
1108	<i>Certain Foreign-Fabricated Semiconductor Devices, Products Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1443, USITC Order 10 (May 7, 2025).
1109	<i>Certain Power Inverters And Converters, Vehicles Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1267, USITC Order 6 (Aug. 4, 2021).
1110	<i>Certain Power Inverters And Converters, Vehicles Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1267, USITC Order 14 (Sept. 22, 2021).
1111	Trump on China - Putting America First (Robert C. O'Brien editor).

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1112	YiTan Hsu, The Critical Role of Taiwan in the United States Semiconductor Supply Chain (Nov. 24, 2024).
1113	Letter from Billie Chen to Under Secretary Andrei Iancu regarding USPTO Request for Comments on Discretion to Institute Trials Before the Patent Trial and Appeal Board, Docket No. PTO-C-2020-055.
1114	<i>Certain Wearable Electronic Devices With Egg Functionality And Components Thereof</i> , Inv. No. 337-TA-1266, USITC Order 6 (June 25, 2021).
1115	Reserved.
1116	<i>Certain Automated Storage And Retrieval Systems, Robots, And Components Thereof</i> , Inv. No. 337-TA-1228, USITC Order 4 (Dec. 4, 2020).
1117	<i>Certain Automated Storage And Retrieval Systems, Robots, And Components Thereof</i> , Inv. No. 337-TA-1228, USITC Order 21 (June 10, 2021).
1118	<i>Certain Disposable Vaporizer Devices</i> , Inv. No. 337-TA-1410, USITC Order 9 (Aug. 26, 2024).
1119	Another Historic Investment Secured Under President Trump, Articles, The White House (Mar. 3, 2025) (last visited July 14, 2025), <i>available at</i> https://www.whitehouse.gov/articles/2025/03/another-historic-investment-secured-under-president-trump/ .
1120	About TSMC Washington, TSMC (last visited July 14, 2025), <i>available at</i> https://www.tsmcWASHINGTON.com/en/about/index.html .

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1121	Russ Wiles, US Commerce Secretary visits TSMC complex in Phoenix as work on third fab starts, azcentral. (Apt. 30, 2025, updated May 1, 2025) (last visited July 15, 2025), <i>available at</i> https://www.azcentral.com/story/money/business/tech/2025/04/30/u-s-commerce-secretary-howard-lutnick-visits-tsmc-complex-in-phoenix/83353830007/ .
1122	Collaboration Programs, University Centers, TSMC (last visited July 14, 2025), <i>available at</i> https://research.tsmc.com/english/collaborations/academic/academic-programs.html .
1123	CNBC Transcript: United States Commerce Secretary Howard Lutnick Speaks with CNBC’s Brian Sullivan on “The Exchange” Today, CNBC (Apr. 29. 2025) (last visited July 14, 2025), <i>available at</i> https://www.cnbc.com/2025/04/29/cnbc-transcript-united-states-commerce-secretary-howard-lutnick-speaks-with-cnbc-brian-sullivan-on-the-exchange-today.html .
1124	Silvia Pellegrino, What is TSMC?, Tech Monitor (Jan. 2, 2023) (last visited July 14, 2025), <i>available at</i> https://www.techmonitor.ai/what-is/what-is-tsmc/?cf-view .
1125	Lucas Tsai, TSMC: Enabling Startups to Unleash New Semiconductor Innovation, TSMC Blog (Apr. 18, 2022) (last visited July 14, 2025), <i>available at</i> https://www.tsmc.com/english/news-events/blog-article-20220418 .
1126	Silent Giant TSMC Returns to the Peak of its Powers as the AI Boom Continues, Yahoo! finance (June 12, 2025), <i>available at</i> https://finance.yahoo.com/news/silent-giant-tsmc-returns-peak-230300515.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAGbNeBi6fbz4U1LAPZACoSOpXFKhZ2d8Aeym1OTBUscShGSwm5cDQL_KDbidYk16TkPx7YtIzsB2YbOGeGdO4PchwSBFYrk3fTg3HWr-MVsPIL1q7mWa7ZR5e6BG0tbKASjEzPE-8r-aiT0KakQ2cXTjpdVs4xTGUvCoXUGIVbDT .

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1127	<i>Certain Electronic Computing Devices, And Components And Modules Thereof</i> , Inv. No. 337-TA-1387, USITC Order 7 (Mar. 12, 2004).
1128	<i>Certain Semiconductor Devices, And Methodes Of Manufacturing Same and Products Containing The Same</i> , Inv. No. 337-TA-1366, USITC Order 7 (Aug. 8, 2023).
1129	Removing Barriers to American Leadership in Artificial Intelligence, Presidential Actions, The White House (Jan. 23, 2025) (last visited July 14, 2025), <i>available at</i> https://www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/ .
1130	TSMC Expands Collaboration with Ansys by Integrating AI Technology to Accelerate 3D-IC Design, Ansys (Sept. 25, 2024) (last visited July 14, 2025), <i>available at</i> https://investors.ansys.com/news-releases/news-release-details/tsmc-expands-collaboration-ansys-integrating-ai-technology .
1131	Cadence and TSMC Advance AI and 3D-IC Chip Design with Certified Design Solutions for TSMC's A16 and N2P Process Technologies, Cadence (Apr. 23, 2025) (last visited July 14, 2025), <i>available at</i> https://www.cadence.com/en_US/home/company/newsroom/press-releases/pr/2025/cadence-and-tsmc-advance-ai-and-3d-ic-chip-design-with-certified.html .
1132	Marlin Semiconductor Limited, D&B Hoovers (last visited July 23, 2025), <i>available at</i> https://app.hoovers.dnb.com/company/f077d361-3cc9-3811-9ffb-8fffe999170/reportViewer?reports=summary&mode=pdf&userId=635c7f94-3f17-3ac0-974a-c9aecbd1eb3...

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1133	David Sacks and Seaton Huang, Onshoring Semiconductor Production: National Security Versus Economic Efficiency, Council on Foreign Relations (Apr. 17, 2024) (last visited July 14, 2025), <i>available at</i> https://www.cfr.org/article/onshoring-semiconductor-production-national-security-versus-economic-efficiency .
1134	Reserved.
1135	Reserved.
1136	Reserved.
1137	Reserved.
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1139	TSMC Intends to Expand Its Investments in the United States to US\$165 Billion to Power the Future of AI, TSMC (Mar. 4, 2025) (last visited July 16, 2025), <i>available at</i> https://pr.tsmc.com/english/news/3210 .
1140	TSMC Arizona, U.S. Department of Commerce announce up to \$6.6B in proposed CHIPS Act direct funding; Company plans third leading-edge fab in Phoenix, Greater Phoenix Economic Council (Apr. 8, 2024) (last visited July 16, 2025), <i>available at</i> https://www.gpec.org/news/tsmc-chips-funding-fab-expansion-announcement/ .
1141	TSMC, ASU form partnership to boost student recruitment, faculty research, Arizona Technology Council (last visited July 16, 2025), <i>available at</i> https://www.aztechcouncil.org/tsmc-asu-form-partnership-to-boost-student-recruitment-faculty-research/ .
1142	TSMC Arizona, TSMC (last visited July 17, 2025), <i>available at</i> https://www.tsmc.com/static/abouttsmc/az/index.htm .

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1143	Read the Full Transcript of Donal Trump’s ‘100 Days’ Interview With TIME, TIME USA (last visited July 18, 2025), <i>available at</i> https://time.com/7280114/donald-trump-2025-interview-transcript/ .
1144	Allowance Rate for U.S. patent applications for TSMC, from https://app.juristat.com/dashboard/premium-benchmarks .
1145	Excerpted data on U.S. utility patent applications from ifi Claims Patent Services December 2024 Monthly Report – U.S. Utility Grants and Applications (Dec. 2024).
1146	ifi Claims Patent Services, Top 50 patent grants from 2022-2024, <i>available at</i> https://www.ificlaims.com/rankings/top-50-2024/ , https://www.ificlaims.com/rankings/top-50-2023/ , https://www.ificlaims.com/rankings/top-50-2022/ .
1147	Jeremy Bowman, Nasdaq, This 1 Number May Ensure TSMC’s Market Dominance, The Motley Fool (Aug. 17, 2024) (last visited July 18, 2025), <i>available at</i> https://www.nasdaq.com/articles/1-number-may-ensure-tsmcs-market-dominance .
1148	Reserved.
1149	Reserved.
1150	Patent Assignment Record from United Microelectronics Corp. to Marlin Semiconductor Ltd., Reel: 056991 Frame: 0292-0328, United States Patent and Trademark Office (July 26, 2021).
1151	<i>Certain Foreign-Fabricated Semiconductor Devices, Products Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1443, Verified Complaint Under Section 337 of the Tariff Act of 1930, as Amended (Feb. 14, 2025).
1152	<i>FAQs for Interim Processes for PTAB Workload Management</i> , USPTO (last visited Aug. 8, 2025), <i>available at</i> https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management .

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1154	Press Release, <i>Apple will spend more than \$500 billion in the U.S. over the next four years</i> , Apple (Feb. 24, 2025) (last visited Aug. 8, 2025), available at https://www.apple.com/newsroom/2025/02/apple-will-spend-more-than-500-billion-usd-in-the-us-over-the-next-four-years/ .
1155	Newsroom, <i>Apple Manufacturing Academy opens in Detroit on August 19</i> , Apple (July 29, 2025) (last visited Aug. 8, 2025), available at https://www.apple.com/newsroom/2025/07/apple-manufacturing-academy-opens-in-detroit-on-august-19/ .
1156	Donald J. Trump, <i>Promoting the Export of the American AI Technology Stack</i> , The White House (July 23, 2025) (last visited Aug. 8, 2025), available at https://www.whitehouse.gov/presidential-actions/2025/07/promoting-the-export-of-the-american-ai-technology-stack/ .
1157	Office of Science and Technology Policy, Executive Office of the President of the United States, <i>Winning the Race: America's AI Action Plan</i> (July 2025).
1158	<i>Certain Electrical Connectors And Cages, Components Thereof, And Products Containing The Same</i> , Inv. No. 337-TA-1241, USITC Order 50 (Jan. 24, 2022).
1159	<i>Certain Electrical Connectors And Cages, Components Thereof, And Products Containing The Same</i> , Inv. No. 337-TA-1241, USITC Order 51 (Mar. 4, 2022).
1160	<i>Certain Electrical Connectors And Cages, Components Thereof, And Products Containing The Same</i> , Inv. No. 337-TA-1241, USITC Notice (June 21, 2022).

Exhibit	Description
1161	<i>Certain Power Inverters and Converters, Vehicles Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1267, USITC Order 54 (July 27, 2022).
1162	<i>Certain Power Inverters and Converters, Vehicles Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1267, USITC Notice (Oct. 18, 2022).
1163	<i>Certain Light-Based Physiological Measurement Devices And Components Thereof</i> , Inv. No. 337-TA-1276, USITC Order 5 (Sept. 22, 2021).
1164	<i>Certain Light-Based Physiological Measurement Devices And Components Thereof</i> , Inv. No. 337-TA-1276, USITC Order 58 (Sept. 12, 2022).
1165	<i>Certain Light-Based Physiological Measurement Devices And Components Thereof</i> , Inv. No. 337-TA-1276, USITC Order 59 (Oct. 24, 2022).
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1168	<i>Certain Light-Based Physiological Measurement Devices And Components Thereof</i> , Inv. No. 337-TA-1276, USITC Notice (July 11, 2023).
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1170	<i>Certain Light-Based Physiological Measurement Devices And Components Thereof</i> , Inv. No. 337-TA-1276, USITC Notice (Oct. 23, 2023).
1171	<i>Certain Flocked Swabs, Products Containing Flocked Swabs, And Methods Of Using Same</i> , Inv. No. 337-TA-1279, USITC Order 73 (Sept. 30, 2022).
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1175	<i>Certain Power Semiconductors, And Mobile Devices And Computers Containing Same</i> , Inv. No. 337-TA-1308, USITC Order 50 (May 2, 2023).
1176	<i>Certain Outdoor And Semi-Outdoor Electronic Displays, Products Containing Same, And Components Thereof</i> , Inv. No. 337-TA-1331, USITC Order 40 (Sept. 19, 2023).
1177	<i>Certain Outdoor And Semi-Outdoor Electronic Displays, Products Containing Same, And Components Thereof</i> , Inv. No. 337-TA-1331, USITC Order 41 (Oct. 17, 2023).
1178	<i>Certain Video Processing Devices And Products Containing The Same</i> , Inv. No. 337-TA-1341, USITC Order 36 (Jan. 25, 2024).
1179	<i>Certain Portable Battery Jump Starters And Components Thereof (II)</i> , Inv. No. 337-TA-1359, USITC Order 43 (June 18, 2024).

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1180	<i>Certain Photovoltaic Connectors And Components Thereof</i> , Inv. No. 337-TA-1365, USITC Order 32 (July 8, 2024).
1181	<i>Certain Photovoltaic Connectors And Components Thereof</i> , Inv. No. 337-TA-1365, USITC Order 33 (Aug. 13, 2024).
1182	<i>Certain Photovoltaic Connectors And Components Thereof</i> , Inv. No. 337-TA-1365, USITC Notice (Nov. 13, 2024).
1183	<i>Certain Electronic Computing Devices And Components Thereof</i> , Inv. No. 337-TA-1382, USITC Order 66 (Jan. 13, 2025).
1184	<i>Certain Electronic Computing Devices And Components Thereof</i> , Inv. No. 337-TA-1382, USITC Notice (June 9, 2025).
1185	<i>Certain Electronic Computing Devices, And Components And Modules Thereof</i> , Inv. No. 337-TA-1387, USITC Order 36 (Mar. 14, 2025).
1186	<i>Certain High-Strength Aluminum Or Aluminum Alloy-Coated Steel, And Automotive Products And Automobiles Containing Same</i> , Inv. No. 337-TA-1402, USITC Order 33 (June 18, 2025).
1187	<i>Certain Disposable Vaporizer Devices</i> , Inv. No. 337-TA-1410, USITC Order 49 (July 16, 2025).
1188	Alex He, <i>In the Global AI Chips Race, China is Playing Catch-Up</i> , Centre for International Governance Innovation (Sept. 18, 2024).
1189	Taiwan Semiconductor Manufacturing Company Ltd., GIGAFAB Facilities.
1190	Reserved.
1191	Judy Lin, <i>TSMC Arizona's First Fab to Reach 100% Capacity Utilization Rate Soon</i> , TechSoda (June 2, 2025) (last visited Aug. 11, 2025), available at https://techsoda.substack.com/p/tsmc-arizonas-first-fab-to-reach .

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1192	Kaustubh Bagalkote, <i>Scott Bessent Warns TSMC’s \$40 Billion Arizona Fab May Only Meet 7% of US Chip Demand – Blames Building Inspectors, Red Tape For Delays</i> , yahoo!finance (July 25, 2025).
1193	<i>Certain Foreign-Fabricated Semiconductor Devices, Products Containing The Same, And Components Thereof</i> , Inv. No. 337-TA-1443, Proposed Respondent Apple Inc.’s Action Request Not to Institute and Public Interest Statement Under Commission Rule 210.8(C) (USITC Mar. 4, 2025).
1194	Pablo Valerio, <i>Taiwan Already Has 3-nm Chips; Why the U.S. Lags</i> , EE Times (Jan. 9, 2023) (last visited Aug. 11, 2025), available at https://www.eetimes.com/taiwan-already-has-3-nm-chips-why-the-u-s-lags/ .
1195	Lionel Lim, <i>TSMC’s \$100 billion promise to invest in the U.S. won’t shake up the chip supply chain: Most of its capacity is still in Taiwan</i> , Fortune (Mar. 12, 2025) (last visited Aug. 11, 2025), available at https://fortune.com/asia/2025/03/12/tsmc-us-investment-change-chip-supply-chain-taiwan/ .
1196	Taiwan Semiconductor Manufacturing Company Ltd., 7nm Technology (last visited Aug. 13, 2025), available at https://www.tsmc.com/engsh/dedicatedFoundry/technology/log1c/i_7nm .
1197	U.S. Patent and Trademark Office, Interim Director Discretionary Process (last visited Aug. 13, 2025), available at https://www.uspto.gov/patents/ptab/interim-director-discretionary-process .

Respectfully submitted,

Dated: August 15, 2025

/ J. Preston Long /

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **Petitioners' Updated Exhibit List and Exhibits 1044-1056, 1100-1114, 1116-1133, 1139-1147, 1150-1189, and 1191-1197** were served on August 15, 2025, via e-mail directed to counsel of record for the Patent Owner at the following:

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