Filed on behalf of:
Petitioner
By: Tim Tingkang Xia (Lead Counsel)
Tim.Xia@troutman.com
Emma A. Bennett (Back-up Counsel)
Emma.Bennett@troutman.com

Date: June 30, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNITED MICROELECTRONICS CORPORATION,
AND
UMC GROUP (USA),
Petitioner,

v.

ADVANCED INTEGRATED CIRCUIT PROCESS LLC,
Patent Owner.

Case IPR2025-01076
U.S. Patent No. 7,579,227

MOTION FOR JOINDER UNDER 35 U.S.C. § 315(c) AND 37 C.F.R. § 42.122(b) TO RELATED *INTER PARTES* REVIEW IPR2025-00828

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES ii

I. STATEMENT OF THE PRECISE RELIEF REQUESTED 1

II. STATEMENT OF MATERIAL FACTS 3

III ANALYSIS OF THE PRECISE RELIEF REQUESTED 3

A. Legal Standard.....3

B. Petitioner's Motion for Joinder is Timely 4

C. Each Factor Weighs in Favor of Joinder.....4

1. Joinder is Appropriate.....5

2. Petitioner Proposes No New Grounds of Unpatentability.....6

3. Joinder Will Not Unduly Burden or Negatively Impact the TSMC IPR Trial Schedule 6

4. Procedures to Simplify Briefing and Discovery 9

IV. *GENERAL PLASTIC* IS INAPPLICABLE 9

V. CONCLUSION.....13

CERTIFICATE OF SERVICE 15

TABLE OF AUTHORITIES

Page

CASES

Apple Inc. v. Uniloc 2017 LLC,
IPR2018-00580, Paper 13 (PTAB Aug. 21, 2018) 10

Celltrion, Inc. v. Genentech, Inc.,
IPR2018-01019, Paper 11 (PTAB Oct. 30, 2018) 10

General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha,
IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017) (precedential as to § II.B.4.i).....9, 10, 11, 13

Kyocera Corp. v. Softview LLC,
IPR2013-00004, Paper 15 (PTAB Apr. 24, 2013) 4

Shenzhen Silver Star Intelligent Tech. Co., Ltd. v. iRobot Corp.,
IPR2018-00898, Paper 9 (PTAB Oct. 1, 2018) 12, 13

Sony Corp. v. Memory Integrity, LLC,
IPR2015-01353, Paper 11 (PTAB Oct. 5, 2015) 5, 8, 9

Sony Corp. v. Memory Integrity, LLC,
IPR2015-01353, Paper 4 (PTAB Jun. 8, 2015) 5, 8, 9

Taiwan Semiconductor Mfg. Co., Ltd. v. Zond LLC,
IPR2014- 00781, Paper 5 (PTAB May 29, 2014) 1

Taiwan Semiconductor Mfg. Co., Ltd. v. Zond LLC,
IPR2014-00782, Paper 5 (PTAB May 29, 2014) 1

Texas Instruments Inc. v. Greenthread, LLC,
IPR2024-00774, Paper 24 (PTAB Oct. 11, 2024) 8

STATUTES AND RULES

35 U.S.C. § 315(b) 4

35 U.S.C. § 315(c) 1, 3

35 U.S.C. § 316(a)(11) 12

37 C.F.R. § 42.22 1

37 C.F.R. § 42.101(b) 4

37 C.F.R. § 42.122(b) 1, 3, 4

I. STATEMENT OF THE PRECISE RELIEF REQUESTED

Pursuant to 37 C.F.R. § 42.22, United Microelectronics Corporation and UMC Group (USA) (collectively, "Petitioner") respectfully submit this Motion for Joinder of the Petition for *Inter Partes* Review challenging claims 1-2, 7-8, and 14 ("Subset of the Challenged Claims") of U.S. Patent No. 7,579,227 ("the '227 Patent") filed in IPR2025-01076 ("the UMC Petition"). [1]

Pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122(b), Petitioner respectfully requests institution of *inter partes* review and joinder with *Taiwan Semiconductor Mfg. Co. Ltd. v. Advanced Integrated Circuit Process LLC*, IPR2025-00828 ("TSMC IPR"), which has been accorded a filing date of April 15, 2025 (*see* Paper 5) and challenges claims 1-3, 6-9, and 14 ("Challenged Claims") of the '227 Patent.

The UMC Petition is substantively identical to the TSMC IPR petition as it relies on the same prior art and grounds, and substantially the same evidence and

[1] Petitioner did not seek prior Board authorization pursuant to 37 CFR § 42.20(b) because it understands from *Taiwan Semiconductor Mfg. Co., Ltd. v. Zond LLC*, IPR2014- 00781 and IPR2014-00782, Paper 5 at 3 (PTAB May 29, 2014) that such authorization is not required for joinder/consolidation motions.

arguments, with respect to the Subset of the Challenged Claims. Petitioner is currently a defendant in (1) *Advanced Integrated Circuit Process LLC v. United Microelectronics Corp.*, Civil Action No. 2:24-cv-00730 in the Eastern District of Texas (Lead Case), filed September 6, 2024; and (2) *Advanced Integrated Circuit Process LLC v. Taiwan Semiconductor Mfg. Co. Ltd.*, Civil Action No. 2:24-cv-00623 in the Eastern District of Texas (Consolidated Member Case), filed August 1, 2024 and Petitioner has not previously filed a petition for *inter partes* review challenging the validity of the '227 Patent. Judicial resources will be conserved by institution and joinder here.

Petitioner further stipulates that if joinder is granted, it will act as an "understudy" and will not assume an active role unless the TSMC IPR petitioner ceases to participate or such filings or motions solely involve Petitioner. Petitioner also will not seek any additional depositions or deposition time. These limitations remove any potential burden for having another party join the TSMC IPR proceeding and avoid any lengthy or duplicative briefing.

Accordingly, joinder is appropriate because it will efficiently resolve the question of the '227 Patent's validity in the same manner and timeframe already prescribed by the Scheduling Order yet to be issued in the TSMC IPR.

II. STATEMENT OF MATERIAL FACTS

1. On April 15, 2025, Taiwan Semiconductor Manufacturing Company Limited ("TSMC") filed a petition for *inter partes* review (IPR2025-00828) requesting cancellation of the Challenged Claims. *See* IPR2025-00828, Paper 2.

2. On May 13, 2025, the Board issued a Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response, according the TSMC IPR petition a filing date of April 15, 2025. *See* IPR2025-00828, Paper 5.

3. On June 2, 2025, Petitioner filed a petition for *inter partes* review (IPR2025-01076) requesting cancellation of the Subset of the Challenged Claims, which is substantively identical to the TSMC IPR petition as related to those claims.

III ANALYSIS OF THE PRECISE RELIEF REQUESTED

A. Legal Standard

The Board has the authority under 35 U.S.C. § 315(c) to join a properly filed *inter partes* review petition. *See* 35 U.S.C. § 315(c). A motion for joinder must be filed no later than one month after the institution date of the original *inter partes* review for which joinder is requested. *See* 37 C.F.R. § 42.122(b). In deciding whether to exercise its discretion and permit joinder, the Board considers factors, including: (1) the reasons why joinder is appropriate; (2) whether the new petition presents any new grounds of unpatentability; (3) what impact, if any, joinder would have on the trial schedule for the existing review; and (4) how briefing and discovery

may be simplified. *See Kyocera Corp. v. Softview LLC*, IPR2013-00004, Paper 15 at 4 (PTAB Apr. 24, 2013).

B. Petitioner's Motion for Joinder is Timely

This motion for joinder is timely because it is filed prior to the issuance of the Decision Granting Institution of the TSMC IPR. *See* 37 C.F.R. § 42.122(b). The UMC Petition is not subject to the one-year statutory time bar because it was filed on June 2, 2025, which is less than one year after the date (September 25, 2024) on which Petitioner waived service of a complaint alleging infringement of the '227 Patent in *Advanced Integrated Circuit Process LLC v. United Microelectronics Corp.*, Civil Action No. 2:24-cv-00730 in the Eastern District of Texas (Lead Case). *See* 35 U.S.C. § 315(b); 37 C.F.R. §§ 42.122(b), 42.101(b).

C. Each Factor Weighs in Favor of Joinder

Each of the four factors considered by the Board weighs in favor of joinder here. *See Kyocera Corp.*, IPR2013-00004, Paper 15 at 4. Specifically, the UMC Petition does not present any new grounds of unpatentability; rather it is substantively identical to the TSMC IPR petition with respect to the Subset of the Challenged Claims. Further, joinder will have minimal, if any, impact on the trial schedule, as all issues are substantively identical, Petitioner agrees to be bound by the Scheduling Order to be issued in the TSMC IPR, and Petitioner will accept a passive "understudy" role (unless TSMC ceases to participate in the TSMC IPR).

See Sony Corp. v. Memory Integrity, LLC, IPR2015-01353, Paper 11 at 6 (PTAB Oct. 5, 2015) (granting *inter partes* review where petitioner requested an "understudy" role), Paper 4 at 5-7 (PTAB Jun. 8, 2015).

Further, the briefing and discovery should see no change given Petitioner's passive "understudy" role where Petitioner will not actively participate in the TSMC IPR proceeding unless TSMC ceases to participate in the TSMC IPR. Lastly, joinder is appropriate because both the petitioner in the TSMC IPR and the Patent Owner have consented to the joinder of the UMC Petition.

Accordingly, joinder is appropriate. *See Sony Corp.*, IPR2015-01353, Paper 11 at 5-6 (granting institution of IPR and motion for joinder where petitioners relied "on the same prior art, same arguments, and same evidence….and a substantively identical declaration."), Paper 4 at 4-5.

1. Joinder is Appropriate

Joinder with the TSMC IPR is appropriate because the UMC Petition involves the same patent, challenges only a subset of the same Challenged Claims, and is based on the same grounds and combinations of prior art submitted in the TSMC IPR with respect to that Subset of the Challenged Claims. *See Sony Corp.*, IPR2015-01353, Paper 11 at 5-6, Paper 4 at 4-5. The UMC Petition is substantively identical to the TSMC IPR petition with respect to the Subset of the Challenged Claims, containing only minor differences related to the overview of the technology and

formalities of a different party filing the petition supported by a different expert. There are no substantive changes to the facts or arguments presented in the TSMC IPR petition. Because these proceedings are substantively identical with respect to the Subset of the Challenged Claims, good cause exists for joining this proceeding with the TSMC IPR so that the Board can efficiently resolve all grounds in both the UMC Petition and the TSMC IPR petition together. *See id*.

2. Petitioner Proposes No New Grounds of Unpatentability

The UMC Petition presents the same grounds of unpatentability as the TSMC IPR petition with respect to the Subset of the Challenged Claims.

3. Joinder Will Not Unduly Burden or Negatively Impact the TSMC IPR Trial Schedule

Because the UMC Petition is substantively identical to the TSMC IPR petition with respect to the Subset of the Challenged Claims, with the same grounds rejecting only a subset of Challenged Claims, there are no new substantive issues for Patent Owner to address, and Petitioner's proposed "understudy" role will allow the TSMC IPR to proceed in the same manner and timeframe as prescribed in the Scheduling Order to be issued in the TSMC IPR.

As agreed above, Petitioner will take a passive "understudy" role in the TSMC IPR proceeding and not actively participate unless TSMC ceases to be involved in the TSMC IPR. Under this "understudy" role, Petitioner agrees that:

- Petitioner shall be bound by the Scheduling Order to be issued in the TSMC IPR;
- Petitioner shall not make any substantive filings and shall be bound by the filings of the petitioner in the TSMC IPR, unless a filing concerns termination or settlement, a filing solely involves Petitioner, or petitioner in the TSMC IPR ceases to participate;
- Petitioner shall not present any argument or make any presentation at oral hearing unless an issue solely involves Petitioner, or when addressing Board-approved motions that do not affect the petitioner in the TSMC IPR, or unless petitioner in the TSMC IPR ceases to participate.
- Petitioner shall not seek to take a deposition or defend a deposition of any witness, unless the topic of examination concerns issues solely involving Petitioner, or petitioner in the TSMC IPR ceases to participate.
- Petitioner shall not seek discovery unless petitioner in the TSMC IPR ceases to participate and discovery is needed.
- Petitioner will not rely on expert testimony beyond that submitted by the petitioner in the TSMC IPR unless the petitioner in the TSMC IPR ceases to participate in the proceeding.

Petitioner will also abide by any additional conditions the Board deems appropriate for an "understudy" role. Given the terms of Petitioner's proposed "understudy" role, Petitioner respectfully submits that joining the TSMC IPR will not require any delay or modification and will not unduly prejudice any party or the Board. "Thus [] granting the Motion for Joinder would help 'secure the just, speedy, and inexpensive resolution of these proceedings." *Texas Instruments Inc. v. Greenthread, LLC,* IPR2024-00774, Paper 24, at 18-20 (PTAB Oct. 11, 2024) (granting institution and joinder where petitioner agreed to take an "understudy" role).

Due to the same issues being presented in the TSMC IPR petition, Patent Owner will not be required to present any additional responses or arguments. *See* IPR2015-01353, Decision Instituting IPR, Motion for Joinder, Paper 11 at 6 (granting IPR and motion for joinder where "joinder should not necessitate any additional briefing or discovery from Patent Owner beyond that already required in [the original IPR]."); *see also Sony Corp.*, IPR2015-01353, Paper 4 at 5-7.

The Patent Owner Preliminary Response will not be negatively impacted because the issues presented in the TSMC Petition are identical to the issues presented in the UMC Petition. Patent Owner will not be required to provide any additional analysis or arguments beyond what it will already provide in responding

to the TSMC IPR petition. Joinder of this proceeding with the TSMC IPR also does not unduly burden or negatively impact the trial schedule in any meaningful way.

4. Procedures to Simplify Briefing and Discovery

The TSMC IPR petition and UMC Petition present substantively identical grounds of rejection with respect to the Subset of the Challenged Claims, including the same art combinations against the same claims. Additionally, Petitioner explicitly agrees to take an "understudy" role, as described in the proceeding section. Petitioner will assume an active, primary role only if TSMC ceases to participate in the TSMC IPR.

By Petitioner accepting an "understudy" role, Patent Owner and Petitioner can comply with the Scheduling Order to be issued in the TSMC IPR and avoid any duplicative efforts by the Board or the Patent Owner. These steps will minimize any potential complications or delay that may result by joinder. *See Sony Corp.*, IPR2015-01353, Paper 11 at 6-7 (granting IPR and motion for joinder because "joinder would increase efficiency by eliminating duplicative filings and discovery, and would reduce costs and burdens on the parties as well as the Board" where petitioners agreed to an "understudy" role.), Paper 4 at 6-7.

IV. *GENERAL PLASTIC* IS INAPPLICABLE

Petitioner respectfully submits application of the *General Plastic* analysis is inapplicable here. In *General Plastic*, the Board set forth a series of factors that may

be analyzed for follow-on petitions to help conserve the finite resources of the Board. In the current motion, Petitioner merely seeks to join TSMC's petition and does not present any new grounds. As such, Petitioner respectfully submits that *General Plastic* does not apply in this circumstance because Petitioner would be taking an "understudy" role and the Board's finite resources would not be impacted.

Moreover, a joinder petition in these circumstances is not the type of serial petition to which *General Plastic* applies, especially as Petitioner has not previously filed an IPR against the '227 Patent. The PTAB has previously stated that a joinder petition "effectively neutralizes" a *General Plastic* analysis. *See Apple Inc. v. Uniloc 2017 LLC*, IPR2018-00580, Paper 13 at 10 (PTAB Aug. 21, 2018) (instituting a joinder petition where joinder petitioner previously filed a non-instituted IPR, stating joinder petitioner's joinder motion agreeing to a passive "understudy" role "effectively neutraliz[es] the *General Plastic* factors"); *see also Celltrion, Inc. v. Genentech, Inc.*, IPR2018-01019, Paper 11 at 10 (PTAB Oct. 30, 2018) (instituting a joinder petition where joinder petition previously filed a non-instituted IPR, stating the joinder motion "effectively obviates any concerns of serial harassment and unnecessary expenditure of resources").

In the event the Board does analyze the *General Plastic* factors, those factors heavily weigh in favor of instituting the present IPR. *General Plastic Indus. Co.,*

Ltd. v. Canon Kabushiki Kaisha, IPR2016-01357, slip op., at 16 (PTAB Sept. 6, 2017) (Paper 19) (precedential as to § II.B.4.i).

Regarding the first factor, Petitioner has not previously filed a petition against the '227 Patent. Because Petitioner has not otherwise challenged the validity of the '227 Patent in a petition, this factor weighs in favor of institution.

The second factor is whether at the time of filing the first petition the petitioner knew or should have known of the prior art asserted in the second petition. This factor is neutral, if not inapplicable, in the *General Plastic* analysis. Here, the TSMC IPR petition and UMC Petition share the same prior art because the UMC Petition is a "copycat" of TSMC's petition. Because Petitioner is merely seeking to join in an "understudy" role, the factor is neutral, at best, in determining whether to institute.

The third factor is whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition. The petitioner in the TSMC IPR has not received the Board's institution decision and the patent owner's preliminary response has not been submitted in that proceeding and is not due until August 13, 2025. Because this is a Motion for Joinder requesting an "understudy" role, Petitioner is submitting a substantively identical petition as, and has not added to, or changed, any of the substantive arguments from, the TSMC IPR petition with respect to the Subset of the Challenged Claims.

Moreover, because Petitioner will serve an "understudy" role, the UMC Petition is not an attempt to harass the Patent Owner or otherwise engage in serial, tactical filings. Thus, this factor weighs in favor of joinder and institution.

The fourth factor is the length of time elapsed between the time the petitioner learned of the prior art asserted in the second petition and filing of the second petition, and the fifth factor is whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent. In the context of a joinder motion where Petitioner will be taking an "understudy" role, these factors are inapplicable.

The sixth factor is the finite resources of the Board. Granting Petitioner's joinder motion where Petitioner will serve in an "understudy" role will not impact the Board's resources beyond those resources the Board dedicates to the instant joinder motion and will otherwise only conserve the Board's resources.

The seventh factor is the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than one year after the date on which the Director notices institution of review. As noted above, joining Petitioner will not impact the schedule of the TSMC IPR. Accordingly, this factor weighs in favor of institution.

An eighth factor identified by the Board in *Shenzhen* is the extent to which the petitioner and any prior petitioner(s) were similarly situated defendants or otherwise realized a similar-in-time hazard regarding the challenged patent. *See*

Shenzhen Silver Star Intelligent Tech. Co., Ltd. v. iRobot Corp., IPR2018-00898, Paper 9 at 7, 13-14 (PTAB Oct. 1, 2018) (noting "the purpose of proposed Factor 8 is to discourage tactical filing of petitions over time by parties that faced the same threat at the same time" such that earlier petitions are filed as "test case(s)" to gain "tactical advantage"). Because the UMC Petition does not introduce any new grounds of unpatentability and will effectively merge into the same proceeding with TSMC's IPR, no tactical advantage contemplated by the Board in *Shenzhen* is gained here.

Thus, none of the *General Plastic* factors weighs against institution and joinder with respect to the UMC Petition.

V. CONCLUSION

Based on the factors discussed above, Petitioner respectfully requests that the Board grant the UMC Petition for *Inter Partes* Review of the '227 Patent and then grant joinder with *Taiwan Semiconductor Mfg. Co. Ltd. v. Advanced Integrated Circuit Process LLC*, IPR2025-00828.

Date: June 30, 2025

Respectfully submitted,

/s/ Tim Tingkang Xia

Tim Tingkang Xia (Lead Counsel)
Registration No. 45,242
TROUTMAN PEPPER LOCKE LLP
600 Peachtree Street NE, Suite 3000
Atlanta, GA 30308
Tel: (404) 870-4698
Email: Tim.Xia@Troutman.com

Emma A. Bennett (Back-up Counsel)
Registration No. 80,631
TROUTMAN PEPPER LOCKE LLP
600 Travis Street, Suite 2800
Houston, TX 77002
Tel: (713) 226-1549
Email: Emma.Bennett@Troutman.com

Counsel for Petitioner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned certifies that on this 30th day of June, 2025, I caused to be served a true and correct copy of the foregoing **Motion for Joinder Under 35 U.S.C. § 325(c) and 37 C.F.R. § 42.122(b) To Related *Inter Partes* Review IPR2025-00828** via e-mail (as agreed in the Service Information section of Patent Owner's Mandatory Notice):

Lori A. Gordon (Reg. No. 50,633)
Goodwin Procter LLP
1900 N. Street NW
Washington, D.C. 20036
Telephone: 202-346-4000
Facsimile: 202-346-4444
Gordon-PTAB@goodwinlaw.com

Counsel for Patent Owner

Theodoros Konstantakopoulos, Ph.D. (Reg. No. 74,155)
Filippos Papadatos (Reg. No. 78,834)
Goodwin Procter LLP
620 Eighth Avenue
New York, NY 10018
Telephone: 212-813-8800
Facsimile: 212-355-3333
TKonstantakopoulos@goodwinlaw.com
fpapadatos@goodwinlaw.com

Counsel for Patent Owner

Andrew S. Ong (Reg. No. 69,076)
Jesse Cheng (*pro hac vice*)
Goodwin Procter LLP
601 Marshall Street
Redwood City, CA 94063
Telephone: 650-752-3100
Facsimile: 650-853-1038
AOng@goodwinlaw.com
JesseCheng@goodwinlaw.com

Counsel for Patent Owner

Further, a courtesy copy has been concurrently served via email on Patent Owner's litigation counsel at:

Justin A. Nelson
SUSMAN GODFREY L.L.P.
1000 Louisiana Street, Suite 5100
Houston, TX 77002
jnelson@susmangodfrey.com

/s/ Tim Tingkang Xia
Tim Tingkang Xia (Lead Counsel)
Registration No. 45,242

Counsel for Petitioner