Paper No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Excelliance Mos Corporation,

Petitioner

v.

Force Mos Technology Co., Ltd.,

Patent Owner

Patent No. 7,629,634

Issue Date: December 8, 2009

Title: TRENCHED MOSFET WITH TRENCHED SOURCE CONTACT

Inter Partes Review No. 2025-01433

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PETITIONER'S OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL

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I. Introduction

Petitioner Excelliance MOS Corporation ("EMC") seeks inter partes review of U.S. Patent No. 7,629,634 ("the '634 Patent"). The Petition shows that two prior art references, individually or together, disclose the claimed "lateral contact layer," rendering the challenged claims obvious under 35 U.S.C. § 103. Institution is warranted because this is Petitioner's first opportunity to present new, previously unconsidered grounds of unpatentability. EMC is neither a Real Party-In-Interest ("RPI") nor a privy of any other entity, and the asserted grounds have never been adjudicated. The record also shows that Patent Owner withheld material prior art, including related patents, and failed to disclose that the claimed differential doping in the "lateral contact layer" is an inevitable and unavoidable result of ion implantation processes long known in the art, which caused material error during examination. The *General Plastic* and *Fintiv* factors all favor institution.

II. Factual Background

EMC is a publicly traded semiconductor manufacturer that designs and fabricates integrated circuits. *See* Ex. 1029 ¶2. EMC sells its products to customers who then sell to downstream manufacturers such as ASUSTeK Computer Inc. ("ASUSTeK"), who incorporate the components into finished products. *See* Ex. 1029 ¶3.

Force MOS Technology Co., Ltd. ("Patent Owner") owns the '634 Patent. During prosecution, Patent Owner disclosed only one prior art reference and omitted related applications by the same inventor filed under different English spellings of his name. The patent expired when Patent Owner failed to pay the 3.5-

year maintenance fee, was revived after a nine-month lapse on September 9, 2014, and Patent Owner took no action until November 28, 2022, when Patent Owner first sued ASUSTeK in the Eastern District of Texas. *Force MOS Tech. Co., Ltd. v. ASUSTeK Computer, Inc.*, No. 2:22-cv-00460-JRG ("EDTX").

In EDTX, Patent Owner named only ASUSTeK as defendant, never adding EMC or alleging infringement by any EMC product in its complaint. *See, e.g.*, Ex. 2001, Complaint. Large portions of the litigation, including infringement contentions and expert materials, are sealed and unavailable to EMC. *See* Ex. 1027, EDTX Docket. The court's protective order likely bars ASUSTeK from sharing confidential information with non-parties. *See* Ex. 1027, Dkt. No. 28. EMC neither had access or involvement in EDTX. *See* Ex. 1029 ¶5. ASUSTeK sent general status updates regarding potential indemnification to its vendors, one of which was EMC's customer to which EMC had its own indemnification obligation. *Id*. ¶¶4–5.

On February 13, 2025, the EDTX jury found ASUSTeK infringed the '634 Patent, and judgment was entered accordingly. *See* Ex. 1028, ECF No. 421; Ex. 2010. The court did not address the validity of the '634 Patent.

Separately, third parties initiated other proceedings. uPI Semiconductor Corp. filed IPR2025-00920 ("*uPI* IPR") challenging U.S. Patent No. 7,812,409 ("the '409 Patent"), which the Director denied for administrative efficiency following a prior Inergy Technology, Inc's IPR decision ("*Inergy* IPR"). *uPI Semiconductor Corp. v. Force MOS Tech*., IPR2025-00920, Paper 12 (Sept. 12, 2005). Inergy had earlier filed IPR2024-00093 on the '634 Patent based on

different prior art and arguments. Inergy's appeal of that decision remains pending.

III. The Petition Presents New Prior Art and Arguments Not Previously Adjudicated, Warranting Review Under 35 U.S.C. § 314(a)

Patent Owner incorrectly claims that the validity of the challenged claims has already been adjudicated based on (1) the EDTX ruling on ASUSTeK's inequitable conduct defense, (2) the Board's prior decision in the *Inergy* IPR, and (3) the discretionary denial of *uPI* IPR concerning a different patent, the '409 Patent. None of these proceedings evaluated the patentability of the '634 Patent in light of the new prior art and arguments presented here. Institution is therefore warranted.

A. The Third-Party ASUSTek EDTX Litigation Did Not Consider nor Rule on the Issue of Validity

Patent Owner's suit against third party ASUSTeK in EDTX, resulted only in a jury verdict on infringement. *See* Ex. 2010. The court confirmed that ASUSTeK had withdrawn its invalidity defenses. Ex. 2019 at 1004:18–22; Ex. 2016. As the Board held in *Apple Inc. v. Maxell, Ltd.*, IPR2020-00204, Paper 11 at 15 (June 19, 2020), the withdrawal of invalidity contentions eliminates duplication and the risk of conflicting decisions further weighing against discretionary denial. Because no invalidity arguments were tried or decided, there is no duplication or risk of inconsistent outcomes. The Board has consistently found that when validity is not litigated, *Fintiv* does not justify denial. *Sand Revolution II, LLC v. Continental Intermodal Group–Trucking LLC*, IPR2019-01393, Paper 24 at 10 (June 16, 2020) (informative) (instituting review where the district court case did not address validity); *Sotera Wireless, Inc. v. Masimo Corp*., IPR2020-01019, Paper 12 at 19

(Dec. 1, 2020) (precedential) (emphasizing that *Fintiv*'s purpose is to avoid duplicative validity determinations); *POSCO Co., Ltd. v. ArcelorMittal,* IPR2024-01376, Paper 11 at 15-16 (Mar. 18, 2025) (discretionary denial is unwarranted where a parallel proceeding did not, and could not, adjudicate invalidity). Given that the EDTX court did not adjudicate the validity of the '634 Patent, institution is warranted.

B. The EDTX Inequitable Conduct Ruling Was Not a Validity Determination

Patent Owner's claim that the EDTX inequitable conduct ruling was a ruling on the validity of the '634 Patent is incorrect. The ruling addressed only whether Patent Owner's non-disclosure of Hshieh ('384) was **both** material and deceptive; it did not adjudicate validity. The Court expressly found that "ASUSTeK did not present any invalidity case regarding the '634 Patent…" and "did not present any evidence or argument regarding Hshieh '384…". Ex. 2025 at 8. Because inequitable conduct and patentability involve different legal standards and purposes, the validity of the '634 Patent has never been litigated.

C. The *Inergy* IPR Presented Distinct Arguments and Prior Art

This Petition presents new and materially different prior art, evidence, and arguments from those considered in the *Inergy* IPR. Ex. 1031. The Petition, supported by expert testimony, shows that the claimed "lateral contact layer" was inherently present in prior art references such as Hshieh ('384) and Uno ('864) as a natural and inevitable consequence of ion implantation physics. This inevitable phenomenon, long recognized in the field, was not disclosed during prosecution of the '634 application, causing the Office to allow obvious claims in error.

Patent Owner never revealed this fact in any proceeding until its expert testified in EDTX that "just like when it's raining, the sidewalls receive dopants, but fewer than the bottom," confirming that ion implantation naturally produces the claimed doping distribution. Ex. 1019 at 143–147 (Neikirk Tr.). This admission underscores that the claimed feature arises from physical principles taught by the prior art, not from inventive contribution.

The *Inergy* IPR relied on different references and theories and did not address these inevitable physical effects. As reflected in Exhibit 1031, there is no overlap between the prior art or issues in that proceeding and this Petition. These distinctions confirm that the questions presented here have never been adjudicated and warrant institution under 35 U.S.C. § 314(a).

D. The Board's Denial in the *uPI* IPR Has No Bearing on This Proceeding

Patent Owner's reliance on the Board's discretionary denial of *uPI* IPR is misplaced. That proceeding involved a different patent, the '409 Patent, and was denied solely for administrative efficiency after the single challenged claim had already been found ***unpatentable*** in the *Inergy* IPR. In contrast, Petitioner challenges the '634 Patent, which has not been previously invalidated, and institution is therefore warranted.

IV. Petitioner Is Not an RPI or Privity to ASUSTeK Under § 315(b)

Patent Owner offers only speculation, not evidence, to support its claim that this Petition is time-barred under 35 U.S.C. § 315(b) based on the allegation that ASUSTeK is an undisclosed RPI or privy.

A. Test for Determining "RPI" or Privity in the Filing of a Petition

The Director's precedential decision in *Luminex Int'l Co. v. Signify Holding B.V.*, IPR2024-00101, Paper 20 at 8 (Dir. Nov. 21, 2024), confirms that the RPI inquiry turns on if the petition was filed on the "behest" of another party. *See* PTAB Consolidated Trial Practice Guide, at 14 (Nov. 2019); *Uniloc 2017 LLC v. Facebook Inc.*, 989 F.3d 1018, 1027–28 (Fed. Cir. 2021); *Applications in Internet Time, LLC v. RPX Corp*., 897 F.3d 1336, 1351 (Fed. Cir. 2018). RPI status requires concrete evidence that a non-party both desired review and directed the filing. Here, EMC independently prepared, funded, and filed this Petition. *See* Ex. 1029 ¶¶6–8. Patent Owner offers only speculation and no evidence to rebut these facts.

1. A Standard Indemnity Clause Incidentally Covering Downstream Obligations Does Not Create an RPI Relationship

In *Luminex*, the Director confirmed that a standard, non-exclusive manufacturer–customer indemnification clause, without more, does not establish a RPI relationship. *See Luminex* at 11*; Taylor v. Sturgell*, 553 U.S. 880, 894 (2008) (identifying "substantive legal relationships," such as assignor–assignee or bailee–bailor, that may give rise to privity; indemnification is not among them); *Wavemarket Inc. v. Locationet Sys. Ltd.*, IPR2014-00199, Paper 34 at 6 (Aug. 11, 2014) (finding identification of indemnification obligation is not sufficient to demonstrate beyond speculation that non-party funded, controlled, or had ability to exercise control over IPR proceedings); *Apple Inc. v. Achates Reference Publishing, Inc.*, IPR2013-00080, Paper 22 at 17 (June 3, 2013) (stating that "even assuming that the indemnification provision . . . applies . . . [t]he agreement does not give the developer the right to intervene or control Apple's defense to any charge of patent infringement."); *ASSA ABLOY AB v. CPC Patent Techs. Pty, Ltd*,

IPR2022-01094, Paper 19 at 13-14 (Feb. 2, 2023) (emphasizing that "[t]heoretical, hypothetical, or speculative assertions about effective control, unsupported by evidence, are neither probative nor persuasive" of RPI status.). It is important to note that ASUSTeK and Petitioner have no direct indemnification relationship. Petitioner's indemnity obligation runs only to its immediate customer, whose separate indemnity obligation runs to ASUSTeK. Because the Board has held that even a direct indemnification clause does not establish RPI or privity, there can be no RPI or privity here. Further, Patent Owner's reliance on Petitioner receiving a copy of a general litigation-status letter that ASUSTeK sent to multiple vendors, including one of EMC's customers to which it has an indemnification obligation, does not establish that ASUSTeK coordinated or controlled the filing of this Petition. ASUSTeK provided no funding, direction, or oversight to this Petition. Ex. 1029 ¶¶7–8. The 2019 PTAB's Consolidated Trial Practice Guide provides a useful benchmark, explaining that even participation in a joint defense group, a relationship far closer than any indemnification arrangement here, does not create RPI or privity. *See* Consolidated Trial Practice Guide at 17. Therefore, consistent with *Luminex* and other Board decisions, Petitioner is not a RPI or privy with ASUSTeK.

2. *De Minimus* Ownership and Single Board Seat Do Not Establish Control of Petition for Determination of RPI Status

Patent Owner's claim that ASUSTeK is Petitioner's largest shareholder and holds two board seats is both factually incorrect and legally irrelevant. EMC is a publicly traded company in Taiwan, and Patent Owner's own evidence (Ex. 2004) shows that ASUSTeK holds only 4.42% of EMC's shares and one seat on its nine-

member board. *See* Ex. 2028 at 66. This limited ownership and representation fall far short of any level that could confer voting control or influence over EMC's corporate decisions.

The Board has held that such minimal involvement does not establish control or RPI status. In *Zero Gravity Inside, Inc. v. Footbalance System Oy*, IPR2015-01769, Paper 17 at 26 (Feb. 12, 2016), the Board explained that merely serving as a board member or co-defendant is insufficient to show direction or participation in the filing of an IPR petition absent specific evidence of control. Patent Owner presents no evidence of control, relying instead on pure speculation about ASUSTeK's imagined influence on this Petition.

3. The Director Has Correctly Found Other ASUSTeK Vendors Not to Be RPIs or in Privity

The Director's decision in *uPI IPR*, effectively confirmed that *uPI*, another third-party vendor supplying ASUSTeK, was not an RPI or in privity with ASUSTeK or Inergy. *See uPI* IPR, Paper 12 at 2. The same reasoning applies here: Petitioner's independence from both ASUSTeK and Inergy precludes any finding of PRI or privity.

B. Petitioner Is Not Subject To ASUSTeK's § 315(b) Time Bar

Patent Owner's effort to extend ASUSTeK's § 315(b) time bar to Petitioner should be rejected because Petitioner is neither an RPI nor in privity with ASUSTeK. 35 U.S.C. § 315(b) explicitly limits the one-year deadline to situations where "the petitioner, real party in interest, or privy of the petitioner" has been served with a complaint alleging infringement of the challenged patent. 35 U.S.C. § 315(b). Congress intended this restriction to apply only to parties with actual

notice and an opportunity to defend, not to unrelated third parties who were never sued.

Petitioner has never been named, served, or accused of infringing the '634 Patent. None of the complaints filed in EDTX mention EMC or its products. *See* Ex. 1030. Patent Owner's claim that EMC "should have known" of the allegations based on sealed infringement contentions is baseless. Those documents were served only on ASUSTeK, never filed with the court, and likely remain under protective order. Indeed, while Patent Owner alleges that it identified an EMC component in contentions served on ASUSTeK on May 7, 2024 (Ex. 2005 at 2), it still did not make EMC a defendant or even reference EMC products in its Second Amended Complaint filed June 18, 2024. Ex. 1030. Having made the strategic choice not to sue EMC, Patent Owner cannot now claim that EMC "should have known" of confidential materials exchanged in a litigation to which it was not a party.

Extending § 315(b) to a non-party that neither participated in nor controlled the prior litigation would contradict the statute's text and purpose. Section 315(b) prevents repeat challenges by the same interested party, not petitions by independent manufacturers seeking their first opportunity for review. Because EMC is neither a RPI nor in privity with ASUSTeK, and Patent Owner deliberately declined to name or serve it, § 315(b) does not apply and institution is warranted.

V. The General Plastic and Fintiv Factors Favor Institution of Inter Partes Review

Under the Director's *Interim Processes for PTAB Workload Management* (Mar. 26, 2025) parties may address all relevant considerations consistent with

existing Board precedent. *See* The Memorandum on Interim Processes for PTAB Workload Management, at 2 (March 26, 2025). Here, each factor identified in *General Plastic* and *Fintiv*, along with the supporting precedential decisions discussed above, weighs in favor of instituting inter partes review.

A. The *General Plastic* Factors Favor Institution

The *General Plastic* ("GP") factors weigh in favor of institution.

1. *GP* Factor 1 – No Common Petitioner or Relationship Exists

Factor 1 examines whether the same petitioner previously filed a petition directed to the same claims of the same patent. *General Plastic Industrial Co., Ltd, v. Canon Kabushiki Kaisha*, IPR2016-01357~1361*,* Paper 19 at 15–16 (September 6, 2017). Petitioner is neither the same as nor related to any prior petitioner involving the '634 Patent. Ex. 1029 at ¶8. EMC and ASUSTeK are independent, publicly traded companies. *Id*. EMC sells its MOSFETs to third-party customers that, in turn, supply manufacturers such as ASUSTeK, which does not create privity or RPI status. *Id*. at ¶3. Likewise, EMC and Inergy have no corporate affiliation or coordination. *Id*. at ¶8. This Petition was filed solely by EMC, an independent entity, consistent with the Director's reasoning in *Luminex,* favoring institution. *Id* at ¶7.

2. *GP* Factor 2 – Petitioner Could Not Have Known of the Prior Art by Patent Owner's Own Design

Factor 2 considers whether, at the time of the first petition, the petitioner knew or should have known of the prior art asserted in the second. *General Plastic,* at 15–16. This factor prevents petitioners from withholding prior art to gain a tactical advantage through follow-on filings. Patent Owner's claim that EMC

"should have known" of the prior art based on ASUSTeK's EDTX invalidity contentions is unfounded. Patent Owner chose not to name EMC as a defendant, and neither EMC nor its products appear in any complaint. Ex. 1030. ASUSTeK served its invalidity contentions on Patent Owner only; EMC was never served, was not a party, and had no access to those materials. Patent Owner's argument rests entirely on speculation and baselessly alleges EMC had knowledge of a litigation from which Patent Owner itself ensured EMC would have no role. There is no evidence of tactical behavior or overlap, and Factor 2 therefore strongly favors institution.

3. *GP* Factor 3 – No Follow-On Filing; Factor 3 Does Not Apply

Factor 3 examines whether, at the time of filing a later petition, the petitioner had received the patent owner's preliminary response or the Board's institution decision on an earlier petition. *General Plastic,* at 15–17. Factors 2 and 3 discourage the withholding of prior art for tactical use in follow-on filings.

This Petition is EMC's first and only challenge to the '634 Patent, not a follow-on filing under *General Plastic*. Patent Owner's contrary argument relies on two unsupported assumptions: first, that EMC is an RPI or privy of ASUSTeK, and second, that Inergy was an RPI or privy of ASUSTeK. Neither assumption is supported by evidence. Patent Owner's attempt to link EMC to Inergy through ASUSTeK is speculative and lacks factual or legal basis. Because this is EMC's first opportunity to present its own prior art and arguments, none of which have been considered by the Office or the Board, Factor 3 strongly favors institution.

4. *GP* Factors 4 and 5 – Petitioner's First and Independent Filing Shows No Strategic Delay

Factors 4 and 5 address (1) the time between a petitioner's discovery of prior art and the filing of a subsequent petition, and (2) whether the petitioner provides a reasonable explanation for any delay. *Id.* at 15–17. These factors are intended to prevent strategic delays or staggered filings to gain procedural advantage.

Here, EMC's Petition is its first and only challenge to the '634 Patent, and EMC is independent of both ASUSTeK and Inergy. EMC's Petition is therefore not "subsequent" to any other petition, and there is no strategic delay. Accordingly, Factors 4 and 5 strongly favor institution.

5. *GP* Factors 6 and 7 – Institution Aligns with the AIA's Purpose and Poses No Burden on Board Resources

These factors consider the Board's finite resources and its obligation under 35 U.S.C. § 316(a)(11) to issue a final written decision within one year of institution. *General Plastic,* at 15–17.

As shown above, EMC is not an RPI or privy of ASUSTeK or Inergy. The America Invents Act was enacted to ensure a fair and efficient mechanism for reviewing questionable patents, not to bar independent petitioners from pursuing valid challenges. Denying institution here would undermine that purpose by shielding Patent Owner from review simply because unrelated third parties sought institution on different grounds. This Petition was independently prepared and does not burden the Board's resources or statutory timelines. *See* Ex. 1029 ¶7. Accordingly, Factors 6 and 7, and the *General Plastic* framework as a whole, favor institution.

B. The *Fintiv* Factors Weigh Heavily in Favor of Institution

1. *Fintiv* Factor 1 – The EDTX Litigation Concerned Infringement

Alone, Rendering Any Stay Analysis Irrelevant

Factor 1 considers whether the district court granted a stay or whether evidence suggests one would be granted if review is instituted. *Apple Inc. v. Fintiv, Inc*. IPR2020-00019, Paper 11 at 6 (Mar. 20, 2020). Patent Owner argues that institution should be denied because the EDTX court entered final judgment on infringement and previously denied ASUSTeK's motion to stay. That argument fails. In *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, the Director held that even where district court proceedings are advanced or on appeal, the Board must still evaluate whether institution promotes efficiency and fairness under *Fintiv*. *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, IPR2022-01366, Paper 15 at 8 (Dir. Rev. May 2023). Likewise, in *POSCO*, the Board found institution appropriate where patentability disputes did not overlap with district court issues. *See POSCO*, Paper 11 at 13. The same reasoning applies here. The EDTX litigation addressed only infringement, not validity. Post-trial motions remain pending, and review here would aid both the district court and the Federal Circuit should the matter proceed on appeal. *See* Ex. 1027 at 38. Because this Petition raises new arguments and prior art never considered in any forum, denying review would frustrate the AIA's purpose of ensuring that erroneously issued patents can be efficiently reexamined. Factor 1 therefore strongly favors institution.

2. *Fintiv* Factor 2 – Petitioner Was Not a Party to the EDTX Litigation Rendering the Trial Schedule Irrelevant

Factor 2 considers the proximity of the district court's trial date to the Board's projected statutory deadline for a final written decision. *Fintiv*, Paper 11 at

6. EMC is not a party to the EDTX litigation. The district court's schedule is therefore irrelevant to the Board's analysis because there is no parallel proceeding involving this Petitioner. Factor 2 strongly favors institution.

3. *Fintiv* Factor 3 – Neither the Court Nor Any Party Invested Time or Resources in Validity Issues in EDTX

Factor 3 considers the investment in the parallel proceeding by the court and the parties. *Fintiv*, Paper 11 at 6. The EDTX court has made no investment in the validity of the '634 Patent. That litigation addressed only infringement, with no discovery, briefing, or rulings concerning the prior art or arguments presented here. Because EMC is not a party to EDTX and has made no filings or arguments, review of this Petition will not duplicate the court's efforts. Factor 3 therefore strongly favors institution.

4. *Fintiv* Factor 4 – The Petition Raises New Grounds and Prior Art Never Considered in Any Forum

Factor 4 examines the overlap between issues raised in the petition and those in a parallel proceeding. *Fintiv*, Paper 11 at 12–13. Overlap may favor denial only when a petition presents "the same or substantially the same claims, grounds, arguments, and evidence," whereas "materially different grounds, arguments, or evidence" weigh against denial. *Id*. In *POSCO*, the Board found Factor 4 favored institution where a parallel ITC proceeding addressed only infringement and not validity, emphasizing that discretionary denial is unwarranted when patentability is unresolved elsewhere. *POSCO,* Paper 11 at 15.

The EDTX litigation did not consider the validity of the '634 Patent, and this Petition presents distinct grounds and arguments not previously addressed. The

prior art is evaluated here through a different lens, recognizing that the claimed "sidewall doping" effect is not inventive but an inevitable consequence of manufacturing the structures taught in the cited prior art. Because these issues and theories were absent from prior proceedings, there is no risk of overlap or inconsistent outcomes. Factor 4 therefore strongly favors institution.

5. *Fintiv* Factor 5 –Not the Same Party

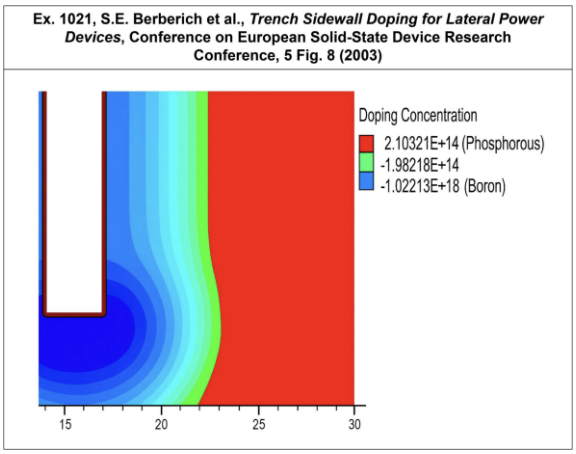
Factor 5 considers whether the petitioner and the defendant in the parallel proceeding are the same party. *Fintiv,* Paper 11 at 6. Here they are not. The Director has already correctly concluded that other third party vendor's IPR proceedings are not parallel proceedings. *See uPI* IPR, Paper 12 at 2. EMC was not a party to the EDTX litigation and had no opportunity to present its own arguments or evidence. Likewise, as discussed above ASUSTeK is not a RPI to this Petition. Applying *Fintiv* to bar an independent petitioner that never participated in prior litigation would unfairly penalize such a party and contradict the AIA's purpose of ensuring a fair and efficient process for evaluating patentability. Factor 5 therefore strongly favors institution.

6. *Fintiv* Factor 6 – All Claimed Limitations, including the Inevitable Doping-Variation Effect, Were Already Disclosed in the Prior Art, and the Office's Error Must Be Corrected

Factor 6 considers other circumstances affecting the Board's discretion, including the petition's merits. *Fintiv*, Paper 11 at 6. Under the PTAB's 2025 Interim Process, the Board may evaluate the strength of a petition's unpatentability showing when exercising discretion.

The Petition presents a compelling challenge. Each and every limitation is

expressly taught in the prior art references. The only alleged inventive feature of the '634 Patent is that the trench sidewalls of the MOSFET have a lower doping concentration than the trench bottom. This characteristic is not an invention but an inevitable result of ion implantation physics, a phenomenon long recognized and documented in the art. *See, e.g.*, Exs. 1021, 1003, 1020, 1022. The figure shown is from a 2003 publication (Ex. 1021), predating the '634 Patent by nearly five years, depicts this same differential doping pattern along trench sidewalls and the bottom.



Even Patent Owner's expert conceded that ion implantation naturally produces varying doping concentrations along trench sidewalls and at the bottom, describing the process through a "rain analogy." *See* Ex. 1019 at 143–147 (Neikirk Tr.). Had the Office been aware that this differential doping is an inevitable and unavoidable consequence of ion implantation, it would have recognized that the claimed "lateral contact layer" is created during fabrication and that, together with the other limitations, the claimed combination would have been obvious.

This scientific reality, that ion implantation inevitably forms lateral contact layers with differential doping, directly informs the Board's understanding of what the prior art inherently disclosed. The record demonstrates that the Office materially erred in granting claims directed to a predictable physical effect. The challenged claims are therefore unpatentable as are obvious in view of the inherent

characteristics of the prior art. Allowing such claims to remain would improperly monopolize an inevitable phenomenon long recognized in the field, undermining fairness and the integrity of the patent system. The compelling merits of this Petition, grounded in clear statutory and scientific error, weigh heavily in favor of institution so that the Office may correct this long-standing mistake.

VI. Unlike *Adaptics*, This Petition Relies on Only Two References

Patent Owner incorrectly claims that this Petition presents excessive or redundant grounds by listing three grounds based on two prior art references. This mischaracterizes the Petition and misapplies *Adaptics Ltd. V. Perfect Co.*, IPR2018-01596, Paper 20 (Mar. 6, 2019) (informative).

In *Adaptics*, the Board found the petition excessive because it relied on ten references connected by "and/or," producing hundreds of potential combinations and lacking particularity. *Id.* at 18. This case is fundamentally different. EMC presents only three clearly defined grounds: one based on Hshieh ('384), one on Uno ('864), and a third combining both. Each reference independently renders the challenged claims obvious when understood in light of the inevitable varied doping effects of the fabrication process, and the Petition identifies each limitation with specificity, satisfying § 312(a)(3). The combined ground three merely provides an alternative theory showing that a POSITA would have found it obvious to combine the teachings of Hshieh and Uno. This results in a total of only three possible combinations, not the hundreds considered in *Adaptics*. The Petition thus provides a concise, well-supported set of alternative theories demonstrating unpatentability with clarity and precision.

VII. Patent Owner's Conduct Forecloses Any Equitable Claim to "Settled Expectations" Under § 314(a)

Patent Owner's reliance on the "settled expectations" doctrine under 35 U.S.C. § 314(a) is both legally and factually misplaced. The doctrine applies only where a patent owner has maintained and relied upon long-standing, unchallenged rights that others have respected. None of those circumstances exist here.

A. Patent Age Alone Does Not Justify Discretionary Denial

The Director's decisions in *iRhythm Technologies, Inc. v. Welch Allyn, Inc.*, IPR2025-00363, Paper 10 (June 6, 2025), and *Apotex Inc. v. Alkermes Pharma Ireland Ltd.*, IPR2025-00514, Paper 10 (July 2, 2025), confirm that patent age alone does not justify discretionary denial. Both decisions emphasize that § 314(a) requires a holistic assessment of all relevant circumstances and that no single factor, whether patent age, litigation history, or timing, controls the analysis. Patent Owner's reliance on age as dispositive misreads this guidance. In *iRhythm*, the Director cited "settled expectations" only where a petitioner delayed filing for more than a decade without justification. *iRhythm*, Paper 10 at 3. In *Apotex*, denial was based on substantially overlapping art in parallel ex parte reexamination. *Apotex*, Paper 10, at 2. Neither situation exists here.

B. Patent Owner's Abandonment of the '634 Patent Undermines Any Claim to Settled Expectations

Patent Owner cannot rely on the "settled expectations" doctrine after publicly abandoning the '634 Patent. In its request, Patent Owner boasts that "the company is so proud of its patented innovations that it displays its patents on the walls of its conference room." *See* Patent Owner's Request for Discretionary Denial, Paper 6 at 19. From this, it is reasonable to infer that Patent Owner clearly

understands its obligations to maintain its portfolio of "over 150 U.S. patents." Accordingly, when Patent Owner deliberately chose not to pay the 3.5-year maintenance fee for the '634 Patent, it made a conscious and public decision to abandon the patent and signal to the public that it would not be enforced. Only after an extraordinary delay wholly inconsistent with an "unintentional" mistake did Patent Owner attempt undo that decision by paying to revive the patent.

The Director has held that failure to pay maintenance fees reflects a belief that the patent will not be enforced or that its validity is doubtful. As the Director explained in *Globus Medical, Inc. v. Spinelogik, Inc.*, IPR2025-00225~00226, Paper 8 (Dir. June 12, 2025), non-payment of maintenance fees demonstrates that the patent owner expected non-enforcement of the challenged patent. Patent Owner's petition to reinstate the patent after an extraordinary nine-month lapse does not negate that public signal of abandonment.

This pattern of abandonment, delayed revival, and nearly a decade of silence before filing suit shortly before expiration is inconsistent with any claim to settled expectations and weighs strongly in favor of institution.

C. Patent Owner's Intentional Nondisclosure Led to Material Examination Errors Requiring Correction

The settled expectations doctrine is an equitable principle meant to preserve fairness where a patent owner has relied on long-standing, unchallenged rights. That principle has no application here. Even if Patent Owner's abandonment of the '634 Patent were ignored, the public interest in preventing enforcement of invalid patents remains paramount. In *Anthony Inc. v. ControlTec LLC*, the Director referred several IPRs to the Board because the examiner had overlooked

prior art identified in an International Search Report but not considered during U.S. examination. *Anthony Inc. v. ControlTec LLC*, IPR2025-00559 & 00636, Paper 12 at 2 (Dir. July 16, 2025). The record here reveals a similar failure. Patent Owner submitted only one reference, Kobayashi ('196), and withheld related applications by the same inventor, including Hshieh ('384), which disclose identical structures. Patent Owner also altered the inventor's name from "Fu-Yuan Hsieh" to "Fwu-Iuan Hshieh," an inexplicable deviation from the official passport spelling that obscured the connection among the applications and prevented the examiner from identifying relevant prior art.

Allowing these claims to stand would reward concealment of known prior art and perpetuate claims that attempt to monopolize a known natural and inevitable phenomenon already in the art. The Board's duty to correct such material errors must outweigh any appeal to patent age or owner expectations. As the Director reaffirmed in *Eunsung Global Corp. v. Hydrafacial LLC*, the public's interest in correcting examination errors outweighs any settled-expectation considerations. *Eunsung Global Corp. v. Hydrafacial LLC*, IPR2025-00445, Paper 14 at 2-3 (Dir. July 10, 2025). The same reasoning applies here: the integrity of the patent system depends on correcting patents that should never have issued.

VIII. Conclusion

Petitioner respectfully requests that the Director authorize institution.

Dated: November 20, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4) and 42.205(b), the undersigned certifies that on November 20, 2025, a complete and entire copy of this **Petitioner's Opposition to Patent Owner's Request for Discretionary Denial of Institution and Accompanying Exhibits No. 1027 ~ 1031** were provided by email to the Patent Owner by serving the correspondence email address of record as follows:

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