

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

EXCELLIANCE MOS CORPORATION,

Petitioner,

v.

FORCE MOS TECHNOLOGY CO. LTD.,

Patent Owner

Inter Partes Review No. IPR2025-01433
U.S. Patent No. 7,629,634

PATENT OWNER'S PRELIMINARY RESPONSE

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Office Patent Trial Practice Guide, 84 Fed. Reg. 64,280 at 12 (Nov. 21, 2019).....9

Regulations

35 U.S.C. § 312(a)(2))8

PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
2001	Complaint, as filed at ECF 1 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Nov. 28, 2022)
2002	ASUSTeK Computer, Inc., Consolidated Financial Statements (3rd Quarter 2019, September 30, 2019), (<i>available at</i> https://www.asus.com/event/investor/content/attachment_en/2019_q3_finacial_report.pdf)
2003	ASUSTeK Computer, Inc., Annual Report (2023), (<i>available at</i> https://www.asus.com/EVENT/Investor/Content/attachment_en/2023_Annual_Report.pdf)
2004	Excelliance MOS Corporation, Annual Report (2024), (<i>available at</i> https://www.excelliancemos.com/en/investors/report-detail/137/)
2005	Plaintiff's First Amended Infringement Contentions, as served in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. May 7, 2024)
2006	Defendant/Counterclaim-Plaintiff's Answer, Affirmative Defenses, And Counterclaims, as filed at ECF 6 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 27, 2023)
2007	Email from C. McMahon re: ASUSTeK (Force MOS) Summary of Pre-Trial Conference (Dec. 4, 2024), as filed in <i>Inergy Technology Inc., v. Force MOS Technology Co., Ltd.</i> , Case No. 2024-Min-Gong-Shang-Zih No. 2, Taiwan Intellectual Property and Commercial Court: Ping Judicial Section, as Exhibit 37 to Inergy Technology Inc.'s Civil Answer Brief No. III (April 11, 2025)

Exhibit	Description
2008	Email string including email from C. McMahon re: ASUSTeK Mediation and Trial Update (Feb. 15, 2025), as filed in <i>Inergy Technology Inc., v. Force MOS Technology Co., Ltd.</i> , Case No. 2024-Min-Gong-Shang-Zih No. 2, Taiwan Intellectual Property and Commercial Court: Ping Judicial Section, as Exhibit 38 to Inergy Technology Inc.'s Civil Answer Brief No. III (April 11, 2025)
2009	Invalidity Expert Report of Stanley R. Shanfield, Ph.D., as served in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. May 20, 2024)
2010	Amended Final Judgment, <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. June 13, 2025)
2011	Trial Transcript, Vol. 1 (Feb. 7, 2025), as filed at ECF 369 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 7, 2025)
2012	Defendant ASUSTeK Computer, Inc.'s Motion to Stay Pending Resolution of <i>Inter Partes</i> Reviews, <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Nov. 30, 2023)
2013	Memorandum Opinion and Order Denying Defendant ASUSTeK Computer, Inc.'s Motion to Stay Pending Resolution of <i>Inter Partes</i> Reviews, <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Apr. 11, 2024)
2014	Defendant ASUSTeK Computer, Inc.'s Patent Initial Disclosures (Invalidity Contentions), as served in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. July 18, 2023)
2015	IPR2024-00093, Petition, Paper No. 1 (Oct. 27, 2023)
2016	Defendant's Notice of Final Invalidity Theories and Equitable Defenses, as served in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Jan. 6, 2025)

Exhibit	Description
2017	IPR2024-00093, Final Written Decision, Paper No. 38 (May 16, 2025)
2018	IPR2024-00093, Petitioner's Notice of Appeal, Paper No. 39 (July 17, 2025)
2019	Trial Transcript, Vol. 4 (Feb. 12, 2025), as filed at ECF 372 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 10, 2025)
2020	PTACTS Docket of IPR2024-00093 (accessed October 20, 2025)
2021	PACER Docket of Force Mos Technology Co., Ltd. v. ASUSTeK Computer, Inc., Case No. 2:22-cv-00460-JRG (E.D. Tex.) (accessed October 20, 2025)
2022	Trial Transcript (Redacted), Vol. 2 (Feb. 10, 2025), as filed at ECF 403-1 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 10, 2025)
2023	Jury Verdict as filed at ECF 358 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 7, 2025)
2024	Trial Transcript (Redacted), Vol. 3 (Feb. 11, 2025), as filed at ECF 403-2 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 7, 2025)
2025	Findings of Fact and Conclusions of Law, as filed at ECF 420 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. June 11, 2025)
2026	Specification Sheet for Excelliance EMB20N03V MOSFET
2027	Notice of Attorney Appearance by Charles M McMahon on behalf of ASUSTeK Computer, Inc., as filed at ECF 115 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 7, 2025)

Exhibit	Description
2028	Excelliance MOS Corporation, Annual Report (2025), (<i>available at</i> https://www.excelliancemos.com/en/investors_document-detail/0/291/)
2029	<i>LinkedIn</i> entry for V. Tsai (<i>available at</i> https://www.linkedin.com/in/tseng-catherine-518b9556/)
2030	Email string including email from R. Garsson re: Discovery Meet and Confer Summary, as exchanged in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 8, 2024)
2031	Waiver of the Service of Summons, as filed at ECF 5 in <i>Force MOS Tech., Co., Ltd. v. ASUSTeK Computer, Inc.</i> , No. 2:22-cv-460 (E.D. Tex. Feb. 8, 2024)
2032	Ex. 1010 from IPR2025-00920, Declaration of Catherine Tseng

Patent Owner Force MOS Technology Co. Ltd. (“Force MOS” or “Patent Owner”) submits its Preliminary Response to the petition for *Inter Partes* Review of U.S. Patent No. 7,629,634 (the “’634 patent”), filed by Excelliance Mos Corporation (“EMC” or “Petitioner”).

I. INTRODUCTION

As previously demonstrated in Patent Owner’s Request for Discretionary Denial (Paper No. 6), and further described below, this IPR has actually been filed on behalf of EMC’s customer—undisclosed real party-in-interest ASUSTek Computer Inc. (“ASUS”). Force MOS first asserted the ’634 Patent against ASUS in a complaint filed over two years ago in the Eastern District of Texas. That case has already proceeded to judgment, after a jury found claim 1 of the ’634 Patent infringed by ASUS. The ’634 Patent was also subject to IPR2024-00093, ostensibly filed by one of ASUS’s other suppliers (Inergy Technologies), but which expressly identified ASUS as a real party-in-interest.

Petitioner and ASUS are more than merely supplier and customer. ASUS is Petitioner’s second largest shareholder and was previously a majority shareholder; ASUS’s officers, directors, and other employees hold positions of control at Petitioner. Petitioner’s products were specifically identified as infringing in the litigation long before this Petition was filed. And, Petitioner actively participated in the EDTX litigation, receiving detailed communications on its status from

ASUS's litigation counsel. As such, there is little question that ASUS is the intended beneficiary of the present petition and should be found to be a real party-in-interest, or in privity, with Petitioner.

Thus, there are at least two reasons that this proceeding should deny institution. *First*, 35 U.S.C. § 315(b) requires that a Petition must be filed no more than one year after “the date on which the petitioner, real party-in-interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b). Here, Patent Owner served a complaint for patent infringement asserting the '634 Patent against ASUS in the EDTX litigation on November 28, 2022, more than two years before the April 24, 2025 filing date of the Petition. There can be no question that ASUS has a preexisting, established relationship with the Petitioner, and that this Petition, if successful, would inure to the benefit of ASUS. Thus, ASUS is a real party-in-interest or privy of Petitioner, and the Petition is therefore time barred under the one-year bar of § 315(b).

Second, the Petition's prior art grounds are based on prior art references which disclose only a single highly doped region abutting the source contact trenches, rather than the distinct base contact layer and lateral contact layer recited in sole independent claim 1 of the '634 Patent. Indeed, the District Court, in detailed findings of fact on ASUS's inequitable conduct claims, already found that

the Hshieh '384 Patent does not anticipate or render obvious claim 1 of the '634 Patent.

Because both reasons clearly demonstrate that institution is prohibited or, at minimum, institution is not adequately established by the arguments presented in the Petition, the Board should deny institution to avoid further unnecessary labor and expense from the Office and the parties.¹

II. FACTUAL BACKGROUND

A. U.S. Patent No. 7,812,634 (“the '634 Patent”)

The '634 Patent relates to trenched MOSFETs with source contact trenches, where each of the source contact trenches has a lateral contact layer at a sidewall thereof. Ex. 1001 (“'634 Patent”), Abstract. A trenched MOSFET (metal-oxide

¹ Both reasons explained in this Preliminary Response clearly and simply establish that the Petition is both barred and not adequately supported for any of the grounds alleged in the Petition. However, in the unlikely event that the Board institutes trial on the Petition, no adverse inference should be taken by the election not to make any argument in this Preliminary Response. Patent Owner explicitly reserves the right to argue for the patentability of the challenged claims for any other reason, and to dispute assertions made in the petition in this trial, if instituted. That any statement in the Petition is not explicitly addressed in this preliminary response should not be construed as acquiescence to or agreement with any position taken in the Petition, nor should it be interpreted as a concession that the Petition has any merit.

semiconductor field effect transistor) allows high current to pass through and for the channel to turn on or off using a low voltage. *Id.*, 1:11-17. The '634 Patent recognizes that, in a traditional trenched MOSFET design, the sidewall of the source contact trench has no ohmic contact with the contact metal plug, which results in poor ruggedness performance of an Unclamp Inductive Switching (UIS) test. *Id.*, 1:35-38. In particular, when P base resistance from the channel to the source contact is too high, device destruction can occur. *Id.*, 1:38-42. The '634 Patent addresses this problem in the prior art by implanting a P*-type lateral contact layer into parts of the sidewall of the source contact trenches, where P* has more doping than the P base layer, but less doping than the P+ base contact layer which is located at the bottom of the source contact trench. *Id.*, 2:1- 11. The '634 Patent describes optimizing the P*-type lateral contact layer doping concentration in order to achieve ohmic contact between the P*-type layer and a contact metal plug without significantly increasing threshold voltage of the device. *Id.*, 2:1-11.

B. Procedural Background

On November 28, 2022, Patent Owner filed a complaint in Case No. 2:22-cv-460-JRG in the Eastern District of Texas (“the EDTX case”) against ASUSTeK Computer, Inc. (“ASUS”), alleging, among other things, infringement of the '634 Patent. Ex. 2001 at 10-17. On January 31, 2023, a waiver of service executed by ASUS’s counsel, dated November 28, 2022, was filed with the District Court. Ex.

2031, Ex. 2021 (ASUS Docket) at 1. This triggered the beginning of the one-year bar period under 35 U.S.C. § 315(b), which was set to end no later than January 31, 2024. *The Brinkmann Corporation v. A&J Manufacturing, LLC*, Case No. IPR2015-00056, Paper 10 at 6-7 (PTAB, Mar. 23, 2015) (*citing* Fed. R. Civ. P. 4(d)(4)).

The EDTX case against ASUS ultimately proceeded to a jury trial on February 7-13, 2025. Ex. 2021 (ASUS Docket) at 45-46 (ECF Nos. 349-361). Although ASUS litigated invalidity of the '634 Patent through expert reports, discovery, and pre-trial motions, ASUS abandoned its invalidity defense for the '634 Patent shortly before trial. *See* Exs. 2009, 2014, 2016. At trial, Force MOS demonstrated that certain accused MOSFETs incorporated in ASUS products infringed claim 1 of the '634 Patent and U.S. Patent No. 7,629,634. In particular, the accused MOSFETs included Petitioner EMC's EMB20N03V MOSFET. Ex. 2022 at 345:20-346:17, 396:20-397:6, 432:14-436:4. The jury issued a verdict on February 13, 2025, finding for Force MOS on all issues—including the infringement of the '634 Patent—and awarding \$10.5 million in damages. Ex. 2023 at 5, 9.

After a bench trial on inequitable conduct, the District Court issued findings of fact and conclusions of law ruling against ASUS's inequitable conduct defense. Ex. 2025. Notably, ASUS had argued that the Hshieh 384 Patent was material and

should have been disclosed during prosecution of the '634 Patent because it would have allegedly rendered the claims anticipated and/or obvious. *Id.* at 6-7 (FF #28, 31-34). The District Court rejected ASUS's arguments, finding the Hshieh 384 reference to be immaterial, as it neither anticipated nor rendered obvious claim 1 of the '634 Patent. *Id.* at 8-11 (FF #40-50). The District Court subsequently entered an amended judgment on June 13, 2025 in favor of Force MOS and against ASUS. Ex. 2010 at 2. Currently, various post-trial motions, including ASUS's motions for new trial and renewed motions for judgment as a matter of law, remain pending in the EDTX case. Ex. 2021 at 53-60.

On October 27, 2023, Inergy Technology, Inc.—an indirect supplier to ASUS of some of the MOSFETs accused of infringement in the EDTX case—filed IPR2024-00093 challenging the '634 Patent. Ex. 2015 at 75; Ex. 2011 at 244:18-24; Ex. 2022 at 623:8-13. ASUS was expressly identified as an admitted real-party-in-interest in IPR2024-00093, as was ASUS's indirect supplier Panjit International, Inc. Ex. 2015 at 1. IPR2024-00093 was instituted and thereafter proceeded through trial, briefing, depositions, and the oral hearing on February 21, 2025. Exs. 2016, 2021. On May 16, 2025, the Board issued a Final Written Decision in IPR2024-00093 finding claims 1-9 patentable. Ex. 2017. On June 17, 2025, Petitioner appealed IPR2024-00093 to the Federal Circuit, and that appeal remains pending. Ex. 2018.

On August 15, 2025—after the EDTX jury verdict, and after the Final Written Decision in IPR2024-00093, Petitioner Excelliance Mos Corporation filed the present IPR Petition challenging claims 1-9 of the '634 Patent. Pet. at 16. Notably, the Petition only identifies Excelliance Mos Corporation as a real party-in-interest. Pet. at 13. Although the Petition notes the existence of IPR2024-00093 and the EDTX case (*id.* at 14), it contains no substantive attempt to address discretionary denial. Notably, the Petition is entirely silent as to the relationship between Petitioner and ASUS (discussed in further detail below).

III. ARGUMENT

A. THIS IPR IS BARRED UNDER THE ONE YEAR LIMIT OF § 315(B) BECAUSE IT WAS FILED ON BEHALF OF ASUS—AN UNDISCLOSED REAL PARTY-IN-INTEREST AND PRIVY TO ASUS

This Petition is barred from institution pursuant to 35 U.S.C. § 315(b) because a waiver of service of the complaint asserting the '634 Patent was filed in Force MOS's EDTX case against ASUSTeK Computer, Inc. ("ASUS") on January 31, 2023, which was more than one year before this IPR's August 15, 2025 filing date. Ex. 2001 at 10-17; Paper 1; Ex. 2031; Ex. 2021 at 11; *Brinkmann*, Case No. IPR2015-00056, Paper 10 at 6-7; Fed. R. Civ. P. 4(d)(4). Thus, the sole issue in dispute is whether ASUS and Petitioner have a privity or RPI relationship.

The Petition asserts that the sole real party-in-interest is “Excelliance Mos Corporation.” Pet. at 13. However, it is clear that ASUS is an undisclosed real party-in-interest and privy in this IPR. Statute explicitly requires that the Petition must “identif[y] all real parties in interest” in an inter partes review petition. 35 U.S.C. § 312(a)(2)); *see also Corning Optical Communications RF, LLC v. PPC Broadband, Inc.*, IPR2014-00440, Paper 68, 13-15 (PTAB August 18, 2015) (designated precedential) (“Prior to institution, when a patent owner provides sufficient evidence that reasonably brings into question the accuracy of a petitioner’s identification of RPI, the overall burden remains with the petitioner to establish that it has complied with the statutory requirement to identify all RPI.”)

The reason for this requirement is because the Petition must be filed no more than one year after “the date on which the petitioner, real party-in-interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b). The RPI and privy requirements “seek[] to protect patent owners from harassment via successive petitions by the same or related parties, to prevent parties from having a ‘second bite at the apple.’” Office Patent Trial Practice Guide, 84 Fed. Reg. 64,280 at 12 (Nov. 21, 2019) (“Trial Practice Guide”). Further, regarding privity, “[a] common consideration is whether the non-party exercised or could have exercised control over a party’s participation in a proceeding.” *Id.* at 16.

“Determining whether a non-party is [an RPI] demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.” *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351 (Fed. Cir. 2018). Underlying the RPI inquiry includes “two questions lying at its heart [which] are whether a non-party ‘desires review of the patent’ and whether a petition has been filed at a nonparty's ‘behest.’” *Id.* (quoting Trial Practice Guide, 77 Fed. Reg. at 48,759). The inquiry focuses on “who, from a ‘practical and equitable’ standpoint, will benefit from the redress that the chosen tribunal might provide . . . and should extend to parties to transactions and other activities relating to the property in question.” *RPX*, 897 F.3d at 1349. “[A] non-party may be a real party-in-interest even in the absence of control or an opportunity to control.” *Cisco Sys., Inc. v. Hewlett Packard Enter. Co.*, IPR2017-01933, Paper 9 at 12 (PTAB Mar. 16, 2018).

In this IPR, publicly available information confirms that ASUSTek Computer Inc.—the disclosed real party-in-interest in IPR2024-00093 and the defendant in the EDTX case—is a real party-in-interest and/or privy of Petitioner. As early as 2019, ASUS identified in its public financial reports that Petitioner was a related party. Ex. 2002 at 67. Further, ASUS’s 2023 Annual Report confirms that the ASUS group of companies was, at the time, the “single largest

shareholder” of Petitioner, with a 12.50% equity interest. Ex. 2003 at 261.

Moreover, this Annual Report also specifically identifies Petitioner as an “Associate” and Related Party of ASUS. *Id.* at 285. Petitioner’s own 2024 Annual Report identifies that ASUS, as an entity, is a Director of Petitioner, with ASUS’s Deputy Manager of Investment Division, Yueh-Lun Huang, acting as ASUS’s representative on Petitioner’s Board of Directors. Ex. 2004 at 26. ASUS’s former Chief Investment Officer, Chih-Hao Lee, also serves as a Director on EMC’s Board. Ex. 2028 at 36. And, in 2025, ASUS’s Chief Financial Officer, Chang Wu, began serving as the ASUS representative on Petitioner’s Board. *Id.* at 34. EMC’s 2025 Annual Report also identifies a 4.42% ownership interest by its Director, ASUS. *Id.* at 66. ASUS’s substantial, and continuing, ownership in Petitioner, as well as ASUS’s identification of Petitioner as a related entity, with ASUS currently acting as a Director on Petitioner’s Board, demonstrate that Petitioner is an RPI and in privity with ASUS, the defendant in the EDTX litigation.

Moreover, ASUS’s officers, directors, and other employees hold positions of control at EMC. As previously identified, two of ASUS’s employees or former employees, Chang Rong Wu and Chih-Hao Lee, are on Petitioner’s Board of Directors. *Id.* at 34, 36. These facts demonstrate that ASUS and EMC have “blurred sufficiently the lines of corporate separation” such that ASUS “could have

controlled the filing and participation of the IPRs.” *Corning Optical Communications RF.*, IPR2014-00440, Paper 68 at 15 (quoting *Zoll Lifecor Corp. v. Philips Elec. N. Am. Corp.*, Case IPR2013-00606, Paper 13 at 10 (PTAB Mar. 20, 2014)).

Still further, EMC’s products have long been accused of infringing in the district court litigation against ASUS. For example, in correspondence to ASUS’s counsel sent on February 8, 2024, Force MOS’s counsel first identified ASUS products containing Petitioner’s EMB20N03V MOSFET as “Accused Products.” Ex. 2030 at 4-5; Ex. 2026. In Petitioner’s Opposition to Patent Owner’s Request for Discretionary Denial, it repeatedly contends that it did not know its products were at issue in the EDTX case because documents were “sealed.” Paper 7 at 2, 9. But plainly Ex. 2030 contains no confidentiality designation or sealing statement. And, in Force MOS’s First Amended Infringement Contentions served in the EDTX case on May 7, 2024, Force MOS mentioned Petitioner by name and identified ASUS products incorporating Petitioner’s EMB20N03V as infringing. Ex. 2005 at 2. Again, the this infringement contentions cover pleading does not contain any confidentiality designation or statement that they are sealed. Ex. 2005. Moreover, Patent Owner demonstrated that such products infringe the ’634 Patent at the EDTX trial. Ex. 2022 at 345:20-346:17, 396:20-397:6, 432:14-436:4; Ex. 2010 at 2. Furthermore, EMC actively assisted ASUS in the EDTX trial by

providing information to ASUS's technical expert witness for use at the trial. Ex. 2024 (Trial Tr. Vol. 3) at 828:20-831:7, 833:6-834:8. As such, Petitioner has plainly long been aware that its products have been accused of infringing the '634 Patent in Patent Owner's EDTX case against ASUS.

And, as a supplier of components to ASUS, Petitioner certainly has some form of indemnification obligation to ASUS for infringement caused by inclusion of EMC's MOSFETs. *See* U.C.C. § 2-312. Indeed, Petitioner admits at least an indirect indemnification obligation to ASUS. Paper 12 at 7; Ex. 1029 ¶¶ 4-5. Moreover, another of ASUS's MOSFET suppliers implicated by Force MOS's EDTX case, who filed an IPR on another of the Force MOS asserted patents, submitted a declaration stating that "the Supplier Group," (i.e. the MOSFET suppliers identified in Force MOS's infringement contentions, which includes Petitioner) "reimburses ASUS for all fees and costs expended, pro-rated among members of the Supplier Group, based solely on the number of accused infringement counts on their respective products." Ex. 2032 ¶¶ 27(c)(d), 31 (Ex. 1010 from IPR2025-000920); Ex. 2005, 2 (identifying Petitioner and its EMB20N03V MOSFET in Force MOS's infringement contentions).

Indeed, emails that have been made publicly available in Taiwan court proceedings confirm EMC's participation in the EDTX litigation. In particular, ASUS's litigation counsel from Benesch Friedlander Coplan & Aronoff, Mr.

Charles McMahon, sent detailed communications regarding the status of Force MOS's EDTX case against ASUS to Vera Tsai (Vera.Tsai@excelliancemos.com), who was then "Project Manager Sales Division" at EMC. Ex. 2007; Ex. 2008;² Ex. 2027 (Mr. McMahon's entry of appearance); Ex. 2029. These emails confirm that EMC was actively involved in the co-pending district court litigation. And, as noted, EMC actively assisted ASUS in the EDTX trial by providing non-public technical information to ASUS's expert witness for use at the trial. Ex. 2024 (Trial Tr. Vol. 3) at 828:20-831:7, 833:6-834:8. And, as discussed, the present petition presents invalidity grounds based on prior art references originally identified by ASUS in the EDTX case. *Compare* Pet. at 16, 20-22 with Ex. 1014 at 5, 10 and Ex. 2009 at 33-34, 77-88, 163-164.

In a similar situation, the Board previously held that a retailer was RPI in an IPR filed by the supplier. *See Luminex International Co. v. Signify Holding BV*, IPR2024-00101, Paper 10 (PTAB May 9, 2024). The Board determined that the customer was RPI to the supplier. The Board noted that the "petitioner bears the burden of persuasion to demonstrate that § 315(b) does not bar institution based on a complaint served on a real party in interest or privy of the petitioner more than

² Ms. Tsai's full "excelliancemos.com" email address appears in the email header later in the email chain, near the bottom of page 2 of Ex. 2008.

one year before petition filing.” *Id.* at 29 (citing *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242 (Fed. Cir. 2018)). Specifically, the Board found that the supplier’s indemnification obligations showed that the petition was filed at the customer’s “behest,” making the customer RPI as to the supplier for purposes of the one-year bar. *Id.* at 37. The Board determined that the customer was therefore RPI of the supplier because it was “a clear beneficiary that has a preexisting, established relationship with the petitioner.” *Id.* at 42.

The prior Director reversed the Board’s decision in *Luminex*, but on grounds that are readily distinguishable from the present case. The Director analyzed whether “a standard, non-exclusive, manufacturer-customer indemnification agreement relating to patent infringement can be sufficient to support a finding of real party in interest and trigger the one-year time bar.” *Luminex International Co. v. Signify Holding BV*, IPR2024-00101, Paper 20 at 11 (PTAB Nov. 21, 2024). The prior Director decided that such a relationship would not create RPI between the supplier and customer “without more.” *Id.*

However, as shown above, the relationship between Petitioner and the defendant in the litigation involves *significantly* more in the present case. First, the Director expressed a concern that finding customers to be RPI of suppliers would encourage suits against customers “to escape the threat of potential IPR challenges by manufacturers, who become unwittingly time-barred.” *Id.* at 14. However, in

the present case there is no such concern because Petitioner's products were identified as infringing at least as early as December 6, 2023, also more than one year before Petitioner's filing. Ex. 2005 at 2; Ex. 2006 at 2.

Second, the customer/defendant in the litigation has a significantly closer relationship with Petitioner than in a pure arms-length supplier-purchaser relationship. As shown above, ASUS is Petitioner's second largest owner, and has indeed held an ownership interest greater than 50% in the past. Ex. 2002 at 15; Ex. 2003 at 91; Ex. 2004. Further, ASUS's officers, directors, and other employees hold positions of control at Excelliance. Ex. 2003 at 8-9, 19-21. Third, Petitioner actively received information and communications from ASUS's litigation counsel regarding the ongoing status of the co-pending District Court Litigation and provided information to assist ASUS's technical expert in the litigation. Ex. 2007; Ex. 2008; Ex. 2024 (Trial Tr. Vol. 3) at 828:17-831:2, 833:6-834:8. Thus, the defendant in the EDTX case, ASUS, "is a clear beneficiary that has a preexisting, established relationship with the petitioner," and is therefore appropriately considered an RPI of Petitioner. *RPX*, 897 F.3d at 1351; *see also Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237 at 1242, 1246 (Fed. Cir. 2018). As such, this case involves a substantially closer relationship between Petitioner and its customer than the relationship at issue in *Luminex*, and the Board should therefore find that

ASUS is RPI with Petitioner and is also in privity with Petitioner for these reasons.

Thus, this Petition is time barred under 35 U.S.C. § 315(b).

B. THE PRIOR ART GROUNDS FAIL TO DISCLOSE OR SUGGEST A DISTINCT “lateral contact layer” AND “base contact layer”

Claim 1 of the '634 Patent recites two distinct structures abutting the source contact trench sidewalls: “the sidewalls of said trenches in said base layer are covered by the lateral contact layer” and “the bottom base of said trenches in said base layer are covered by the base contact layer.” '634 Patent, cl. 1 (emphasis added). Thus, the “the clear implication of the claim language” is that those elements are “distinct component[s]” of the patented invention.” *Becton, Dickinson and Co. v. Tyco Healthcare Group*, 616 F. 3d 1249, 1254 (Fed. Cir. 2010).

This Petition presents two sets of grounds with two different primary references: Hshieh 384 and Uno 864. Pet. at 116, 9-21. However, each of these references suffers from the same fatal flaw. Rather than disclosing a distinct lateral contact layer and base contact layer, as claimed, both references disclose a *single* highly doped P+ region around the source contact trench sidewalls. The difference is illustrated by the following annotated diagrams:

Petitioner—seeing this fatal flaw in the references—annotates figures from Hshieh 384 and Uno 864, adding lines and distinct colorings to suggest the presence of two distinct layers. Pet. at 20-21 (citing Hshieh 384, Figs. 9G, 9J, Uno 864, Fig. 38), 63-67, 114-125. But Petitioner's after-the-fact annotations do not demonstrate that Hshieh 384 or Uno 864 actually disclose or suggest such distinct regions. Rather, both references expressly depict and disclose a single P⁺ region. Hshieh 384, [0028]; Uno, 5:52-62. Indeed, Petitioner admits that “Uno discloses a P⁺-type region 23.” Pet. at 124 (emphasis added). Similarly, Petitioner admits that “Hshieh [384] does not subdivide the P⁺ region into lateral and bottom components.” Pet. at 63.

By contrast, the '634 Patent discloses that the lateral contact layer and base contact layer are distinct due to their distinct doping:

According to the present invention, the silicon substrate, the epitaxial layer, and the source layer are N-type; the base layer and lateral contact layer P* are P-type; and each of the source contact trenches further has a P⁺-type base contact layer at a bottom thereof and the lateral contact layer P* has less doping concentration than the P⁺ base contact layer at the source contact trench but higher doping concentration than P-base layer to achieve ohmic contact between the P*-type region[.]

'634 Patent at 2:1-9.

Petitioner argues that, despite the clear disclosures in Hshieh 384 and Uno 864 of only a single P⁺ region around the source contact trenches, the references

disclose separate lateral and base contact layers with distinct regions because of the angle of implantation of the implant creating the P+ region. Pet. at 75-78, 125. However, Petitioner's angle-theory and "Monte Carlo" simulation are based on arbitrarily making up disclosures not disclosed in either reference. Dr. Foty's analysis assumes "ion implantation parameters that are typically used for creating shallow heavily-doped (i.e., p+ or n+) regions in silicon." Ex. 1003 ¶ 340. In particular, Dr. Foty arbitrarily assumes a particular "implant dose" and "implant energy" without citing any such disclosure in Hshieh 384 or Uno 864, or making any effort to show that such parameters were known or otherwise obvious as of the filing date of the '634 Patent. *Id.* Dr. Foty also improperly measures a figure of the Hshieh 384 reference to calculate the taper angle. *Id.*; *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005) ("arguments based on drawings not explicitly made to scale in issued patents are unavailing" as one should not "read[] precise proportions into patent drawings which do not expressly provide such proportions."); *Hockerson-Halberstadt, Inc. v. Avia Group International, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000) (rejecting argument that "hinges on an inference drawn from certain figures about the quantitative relationship between the respective widths of the groove and fins" because "patent drawings do not define the precise proportions of the elements"). Because Hshieh 384 and Uno 864 fail to disclose ion implantation parameters necessary to infer substantively different

doping concentrations at the sidewalls versus the bottom of the trench, a POSITA would take the disclosures Hshieh 384 and Uno 864 at their face—they only disclose a single P+ region rather than distinct lateral and base contact layers as claimed.

Indeed, the District Court in the EDTX case already rejected the same anticipation and obviousness theories based on Hshieh 384 in detailed findings of fact. In particular, the Court held that “the broadest reasonable interpretation of ‘lateral contact layer’ would require P* doping (i.e., doping between P and P+) ... because the specification of the ’634 Patent uses the definitional language ‘[a]ccording to the present invention’ before describing the lateral contact layer as having P*-type doping, (i.e. doping between P and P+).” Ex. 2025 at 9 (FF #42) (citing ’634 Patent at 2:1-11). The Court found that, by contrast, “Hsieh ’384 discloses that the sidewalls of the source contact trenches have P+ doping” and “contains no further details regarding the doping concentration for such regions, or the dosages used for creating those regions.” Ex. 2025 at 9 (FF #43). Thus, the Court held that “[t]he disclosures in Hsieh ’384 are consistent with the ion implantation process resulting in a uniformly high dosage of positive dopants, such that both the sidewalls and bottom of the source contact trenches have P+ doping.” *Id.* at 9-10 (FF #44). That is, contrary to Dr. Foty’s arbitrary assumptions, the Court held that Hshieh 384’s absence of disclosures regarding how the P+ region is

created and doped are consistent with a uniformly doped region, rather than two distinct layers.

Indeed, the Court rejected the suggestion that ion implants into tapered sidewalls *always* result in two distinct layers. Ex. 2025 at 10 (FF #45). The Court also found that Hsieh 384 “consistently describes and depicts the source contact trench sidewalls as having a single doped region (i.e. elements 128 or 228) surrounding the bottom and sidewalls of the source contact trenches.” *Id.* at 10-11 (FF #47). The Court found that this was insufficient to satisfy claim 1 of the '634 Patent which “separately recites having both a ‘lateral contact layer’ and a ‘base contact layer.’” *Id.* at 11 (FF# 48-49). Accordingly, the Court concluded that Hshieh 384 was not material and did not anticipate or render obvious the '634 Patent. *Id.* at 11 (FF #50, 52).

The Petitioner presents essentially the same arguments based on Hshieh 384 in this IPR that were rejected by the District Court. Moreover, despite filing this IPR approximately two months after the District Court's Findings of Fact, Petitioner makes no effort to address the District Court's contrary findings. Thus, the Board should reject Petitioner's theories for the same reasons as the District Court. And, because, as discussed, Uno 864 has essentially the same disclosures as to this limitation, Petitioner's theories based on Uno 864 should be rejected for the same reasons.

IV. CONCLUSION

For the foregoing reasons, Patent Owner respectfully submits that the Board should deny institution of the Petition.

Dated: November 20, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), I certify that on this 20th day of November, 2025, a true and correct copy of the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE** was served by electronic mail on Petitioner's counsel at the following email addresses:

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION

This Preliminary Response complies with the type-volume limitation in 37 C.F.R. § 42.24. The Request contains 4,370 words, excluding the parts exempted from the type-volume limitation, as measured by the word processing software used to prepare the document.

This Preliminary Response complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft Word in 14-point Times New Roman.

Dated: November 20, 2025

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