

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

Patent No. 7,629,634

Issue Date: December 8, 2009

Title: TRENCHED MOSFET WITH TRENCHED SOURCE CONTACT

Inter Partes Review No. 2025-01433

**PETITIONER'S REQUEST FOR DIRECTOR REVIEW OF
DISCRETIONARY DENIAL DECISION**

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EXHIBIT	DESCRIPTION
1001	U.S. Patent No. 7,629,634 (the “’634 Patent” or “’634”)
1002	File History of the ’634 Patent
1003	Expert Declaration of Dr. Daniel Foty
1004	Expert Curriculum Vitae of Dr. Daniel Foty
1005	U.S. Patent Publication No. 2006/0273384 A1 (“Hshieh” or “’384”)
1006	U.S. Patent No. 6,984,864 (“Uno” or “’864”)
1007	B. Davari et al., <i>A Variable-Size Shallow Trench Isolation (STI) Technology with Diffused Sidewall Doping for Submicron CMOS</i> , International Electron Devices Meeting, 92-95 (1988)
1008	Stanley Wolf, <i>Silicon Processing for the VLSI Era</i> , Vol. 2, 191, 281, 385-387 (1990)
1009	S. Van Huylenbroeck et al., <i>A 0.25um SiGe BiCMOS Technology Including Integrated RF Passive Components Optimised for Low Power Applications</i> , European Solid State Device Research Conference (ESSDERC), 505-508 (2003)
1010	U.S. Patent No. 5,395,786.
1011	H. Shichijo et al., <i>Trench Transistor DRAM Cell</i> , <i>IEEE Electron Device Letters</i> , vol. 7, 119-121 (1986)
1012	<i>Metal Insulator Semiconductor Field Effect Transistors (MISFETs)</i> , EEEGUIDE, https://www.eeguide.com/metal-insulator-semiconductor-field-effect-transistors-misfets/ (last visited July 31, 2025)
1013	Adel S. Sedra and Kenneth C. Smith, <i>Microelectronics Circuits</i> , 237 (5th ed. 2004)
1014	U.S. Patent No. 4,980,747
1015	Stanley Wolf, <i>Silicon Processing for the VLSI Era</i> , Vol. 1, 124, 187-191 (1986)

1016	Ashwin H. Shah et al., <i>A 4-Mbit DRAM with Trench-Transistor Cell</i> , IEEE Journal of Solid State Circuits vol. SC-21, 618-626 (1986)
1017	<i>Properties of SiO₂ and Si₃N₄ at 300K</i> , Comprehensive Reference on ESEMI Semiconductor Manufacturing, https://eesemi.com/sio2si3n4.htm (last visited July 31, 2025)
1018	A. S. Grove, <i>Physics and Technology of Semiconductor Devices</i> , 330 (1967)
1019	<i>Force Mos Technology, Co. Ltd. v. AsusTek Computer, Inc.</i> , 2:22-cv-00460-JRG, E.D. Tex. (Marshall) 2022, ECF No. 416 (Trial Transcript Excerpt)
1020	Genshu Fuse et al., <i>Indirect Trench Sidewall Doping by Implantation of Reflected Ions</i> , Applied Physics Letters, vol. 54, 1534-1536 (1989)
1021	S. E. Berberich et al., <i>Trench Sidewall Doping for Lateral Power Devices</i> , Conference on European Solid-State Device Research Conference, 379-382 (2003)
1022	Michael Quirk and Julian Serda, <i>Semiconductor Manufacturing Technology</i> , 475 (2001)
1023	A. Agrawal et al., <i>Self-Sealed Circular Channels for Micro-Fluidics, Sensors and Actuators (A: Physical)</i> , 80-87 (2006)
1024	D. Edelstein et al., <i>Full Copper Wiring in a Sub-0.25 um CMOS ULSI Technology</i> , IEDM Technical Digest, 773-776 (1997)
1025	S. Nizou et al., <i>Deep Trench Doping by Plasma Immersion Ion Implantation in Silicon</i> , Ion Implantation Technology: 16 th International Conference on Ion Implantation Technology, 229-232 (2006)
1026	Claim Construction Order, <i>Force Mos Technology, Co. Ltd. v. AsusTek Computer, Inc.</i> , 2:22-cv-00460-JRG, E.D. Tex. (Marshall), 2022, ECF No. 132, 13-17.
1027	PACER docket, <i>Force Mos Technology, Co. Ltd. v. AsusTek Computer, Inc.</i> , 2:22-cv-00460-JRG, E.D. Tex. (Marshall), downloaded November 6, 2025.

1028	Amended Final Judgment, Force Mos Technology, Co. Ltd. v. AsusTek Computer, Inc., 2:22-cv-00460-JRG, E.D. Tex. (Marshall), 2022, ECF No. 422.
1029	Declaration of Mr. Chih-Ching Hung In Support of Petitioner's Opposition to Patent Owner's Request for Discretionary Denial.
1030	Second Amended Complaint, Force Mos Technology, Co. Ltd. v. AsusTek Computer, Inc., 2:22-cv-00460-JRG, E.D. Tex. (Marshall), 2022, ECF No. 144.
1031	Comparison of Grounds – Petitioner's IPR vs. Inergy IPR

I. Introduction and Relief Requested

Petitioner, Excelliance Mos Corporation, respectfully request Director Review under 37 C.F.R. § 42.75 of the Director's "Notice of Decisions on Institution" (Paper 9, "Denial Decision") denying the institution of Petition challenging the validity of U.S. Patent No. 7,629,634, ("634 Patent"). Petitioner respectfully requests that the Director vacate the Denial Decision and refer the Petition to the Board for full merits review, as Patent Owner has now admitted that the purported "novel" feature of the '634 Patent is an inherent and inevitable result of the fabrication process and therefore cannot support patentability over the cited prior art.

II. The Director Has Authority and a Duty to Vacate the Denial Decision

Under 37 C.F.R. § 42.75, the Director may review institution determinations made pursuant to 35 U.S.C. § 314 and may vacate, modify, or remand a discretionary denial. Because institution authority is delegated from the Director, the Director retains supervisory responsibility to ensure that institution decisions are consistent with the statute, implementing regulations, and established Office policy.

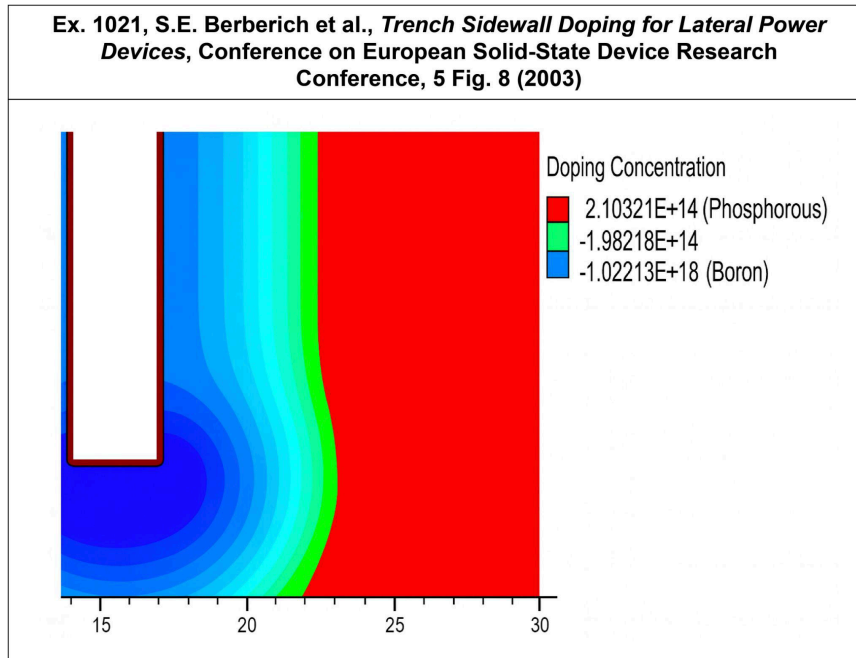
Director intervention is appropriate where a discretionary denial departs from governing policy in a manner that undermines uniform administration of the

AIA and Administrative Procedure Act. In such circumstances, correction is necessary to preserve consistency and confidence in the institution framework.

III. Patent Owner's Recent Admissions Unequivocally Establish That Crucial Information Central To The Issue Of Patentability Was Withheld From The Office; Discretionary Denial Will Only Reward Such Behavior Before The Office

The '634 Patent claims as its purported point of novelty a differential doping profile in which the trench sidewalls have a lower doping concentration than the trench bottom. This profile is an inevitable consequence of the fabrication process that was known at the time, yet sufficiently esoteric that it was not readily discernible to the examiner; had this information been before the examiner, the claims would have been immediately recognized as unpatentable. Only recently, i.e. February 10, 2025, did the patent owner's own expert admit that such differential doping arises naturally during fabrication, characterizing the inherent phenomenon as analogous to "rain." *See* Exhibit 1019. Naturally occurring phenomena are not patentable and had the examiner been made aware that the only "novel" feature of the '634 Patent was a known inherent result of existing fabrication processes, the patent would not have been issued.

By way of example, a figure in a 2003 publication, previously submitted as Petitioner's Exhibit 1021, expressly discloses a sidewall-to-bottom differential



doping profile that exactly matches the purported “novel” feature recited in the '634 Patent.

The Office has an interest in ensuring that patent owners are forthcoming with all material information relating to a patent application. Upholding this discretionary denial would only reward such behavior.

IV. Petitioner's IPR Petition Is Distinguishable and Warrants Director's Attention

Petitioner's Petition is distinguishable from others. In this case, the Patent Owner's recent admissions concern matters central to patentability and were not made part of the record before the Office until now.

Given this recently disclosed missing information, Petitioner's IPR petition presents a clear, element-by-element unpatentability analysis grounded in the bare

minimum of prior art. Notably, Petitioner identifies two prior-art references that each independently and in combination—establish unpatentability.

The straightforward nature of Petitioner's arguments, together with the Office's interest in ensuring full disclosure of material information, warrants institution.

V. This Is The First Opportunity To Review The '634 Patent In Light Of Missing Information And Unconsidered Prior Art

The missing information and cited references were not considered during original examination and have not been addressed in any prior legal proceeding involving the validity of '634 Patent. The prosecution history confirms that the Examiner did not evaluate the cited trench-sidewall doping literature, textbooks, or fabrication publications that expressly disclose differential doping profiles arising from known implantation and diffusion mechanisms. Nor did the examination record reflect any consideration of the well-established fabrication principles demonstrating that lower sidewall doping relative to trench bottoms is a predictable and inherent result of trench geometry.

Likewise, no court or administrative tribunal has adjudicated the patentability of the '634 Patent claims in view of this prior art. The sole district-court proceedings involving the '634 Patent did not result in a merits-based determination of validity nor did it consider the cited references, and no post-grant

proceeding has ever evaluated the cited prior art in light of the missing information. As a result, neither the USPTO nor any reviewing body has previously assessed whether the asserted point of novelty relied upon by the '634 Patent is disclosed or rendered obvious by the unconsidered prior art identified in the Petition.

This absence of prior consideration is significant. Inter partes review was created precisely to permit expert, merits-based reassessment of issued patents where relevant prior art was not previously evaluated. Where, as here, a petitioner presents detailed claim-element mappings to technical references that predate the patent and were omitted from examination, and where no prior proceeding has addressed those disclosures, discretionary denial improperly insulates the patent from the very review mechanism Congress intended. Under these circumstances, merits review by the Board is not duplicative, cumulative, or inefficient; it is the first and only opportunity for the agency to determine whether the '634 Patent should have been issued at all.

VI. The Blank Denial Decision Reflects an Over-Application of 35 U.S.C. § 314(a) Discretion That Produces a Categorical Effect Inconsistent with 35 U.S.C. § 311

Congress expressly granted any person other than the patent owner the statutory right to petition for inter partes review. 35 U.S.C. § 311(a). That right reflects Congress's intent to permit private parties to invoke the USPTO's

authority to reconsider issued patents as part of a patent-quality safeguard. Consistent with Supreme Court precedent and Director Review practice, discretionary denial under 35 U.S.C. § 314 (a) must not be applied to avoid substantive review of patents that have not been fully examined on all relevant grounds. Inter partes review was expressly designed to provide a “second look at an earlier administrative grant of a patent” and to serve as an efficient mechanism for challenging patents that “should not have been issued.” *See Cuozzo Speed Technologies, LLC v. Lee*, 579 U.S. 261, 273–74 (2016); *see also SAS Institute Inc. v. Iancu*, 584 U.S. 357, 367–68 (2018).

Director Review decisions likewise confirm that discretionary authority must engage with a petitioner's sufficiently substantiated arguments or prior art and may not be used to foreclose review without adequate explanation grounded in the record, and accordingly have vacated and remanded discretionary denials lacking sufficient justification. In *Skechers U.S.A., Inc. v. Nike, Inc.*, the Acting Director vacated and remanded a discretionary denial and explained that the Board abused its discretion by failing to address arguments properly before it. The Director found that the Board “abused its discretion in failing to reach Petitioner's arguments that Nishida teaches the limitations of the challenged claims.” *See, e.g., Skechers U.S.A., Inc. v. Nike, Inc.*, IPR2025-00141, Paper 23 (August 21, 2025).

Therefore, although 35 U.S.C. § 314 (a) affords discretion over institution, that discretion must be exercised in a manner consistent with the statutory access guaranteed by 35 U.S.C. § 311. Both Federal Court holding and Director Review decisions as cited herein have made clear that discretionary authority may not be over-applied in a way that produces a categorical effect, namely, the routine foreclosure of IPR petitions that otherwise satisfy the statutory requirements for review.

Here, the Denial Decision is a blank denial that provides no analysis and no case-by-case reasoning. The summary denial of this Petition along with numerous others without explanation reflects a failure to engage with the Petition's evidentiary record and an over-application of discretion untethered from the facts of this case.

Furthermore, this is Petitioner's first Petition to challenge the '634 Patent. Petitioner is not the patent owner and is not engaged in any parallel proceeding. The Petition establishes a prima facie showing of unpatentability, identifies prior art and publications disclosing each challenged claim element that were never be considered by the USPTO or Federal Court in other proceedings and during the examination. Nothing in the record supports treating this Petition as an outlier warranting denial, yet the decision effectively bars the Petitioner's access to IPR in a manner indistinguishable from a categorical exclusion.

Under these circumstances, the denial operates as a de facto nullification of the statutory right conferred by 35 U.S.C. § 311, rather than a permissible exercise of discretion under 35 U.S.C. § 314 (a).

Director intervention is therefore warranted to vacate the denial and to correct an over-application of discretion that undermines uniform administration of the AIA and improperly forecloses statutory access to inter partes review.

VII. The Denial Decision Is Inconsistent with the America Invents Act, Federal Regulations and Administrative Procedure Act

A. Congress Required IPR to Be Conducted Pursuant to Regulation

When Congress enacted the Leahy–Smith America Invents Act (AIA) in 2011, it created the Patent Trial and Appeal Board (PTAB) within the USPTO to adjudicate post-grant proceedings, including inter partes review. 35 U.S.C. § 6. Through IPR, Congress authorized the agency to reconsider issued patents as an administrative alternative to district-court litigation, thereby strengthening patent quality through an expert, efficient adjudicatory process.

Congress further directed that inter partes review proceedings be conducted “in accordance with regulations” promulgated by the USPTO. 35 U.S.C. § 311(a). Pursuant to that mandate, the Office adopted 37 C.F.R. Part 42, which comprehensively governs institution, trial practice, evidentiary standards, and Director Review for IPR proceedings and implements 35 U.S.C. §§ 311–319.

These regulations constitute binding law governing how IPR proceedings must be conducted.

B. The Governing Regulations Assign Institution Authority to the Board

Under the regulatory framework established by the Congress, 37 C.F.R. § 42.108 assigns to the Board the responsibility to determine whether to institute inter partes review. Specifically, the Board must decide whether “there is a reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition.” The regulations thus place institution determinations squarely within the Board’s adjudicatory authority. Unless and until amended through lawful rulemaking, this allocation of responsibility controls may not be displaced by ad hoc policy statements or informal guidance.

C. The October 17, 2025 Memorandum Cannot Supersede Binding Regulations

On October 17, 2025, the Director issued an open letter and accompanying memorandum entitled Director Institution of AIA Trial Proceedings (the “October Memo”), which purports to reallocate institution authority to the Director and to permit discretionary denials outside the Board-based framework established by regulation.

It is clear that agency memoranda cannot supersede duly promulgated regulations. Under the Administrative Procedure Act, 5 U.S.C. §§ 551–559,

binding agency rules may be adopted or amended only through notice-and-comment rulemaking. Informal guidance documents, including policy memoranda, lack the force of law and may not amend or nullify existing regulations. Because the October Memo was not promulgated through APA-compliant rulemaking, it cannot override 37 C.F.R. § 42.108 or reassign institution authority away from the Board. Any institution decision that relies on the October Memo to depart from the governing regulatory framework and improperly deprives the Board of the authority Congress expressly granted it, therefore exceeds lawful discretion and is inconsistent with the AIA and binding USPTO regulations and should be deemed unlawful under the APA (5 U.S.C. § 706(2)(A)–(C)).

D. Blank Denial Decision Should Be Set Aside Under 5 U.S.C. § 706

Pursuant to 5 U.S.C. § 706 (2), the reviewing court may review the agency's action and hold the agency's action is unlawful and set aside agency action if the reviewing court concludes that the agency action is:

- (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
- (B) contrary to constitutional right, power, privilege, or immunity;
- (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
- (D) without observance of procedure required by law;

In applying the scope of review under the “arbitrary and capricious standard”, the Supreme Court held in the *Motor Vehicle Manufacturers*

Association v. State Farm Mutual Automobile Insurance Co. that an agency must provide a reasoned, record-based explanation for its action; otherwise an unexplained agency action is arbitrary and capricious because it prevents meaningful review. *See Motor Vehicle Manufacturers Association v. State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29, 43 (1983) (holding that an agency must “examine the relevant data and articulate a satisfactory explanation for its action”); *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962) (explaining that an agency must “disclose the basis of its order and give clear indication that it has exercised the discretion with which Congress has empowered it.” so that a reviewing court may determine whether discretion was exercised); *SEC v. Chenery Corp.*, 318 U.S. 80, 94 (1943) (stating that “the orderly functioning of the process of review requires that the grounds upon which the administrative agency acted be clearly disclosed and adequately sustained.”); *Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc.*, 419 U.S. 281 (1974) (holding that “the agency must articulate a “rational connection between the facts found and the choice made.” While review is deferential, the Court reiterated the agency must provide reasoning sufficient for a court to understand the decision.).

The Denial Decision constitutes arbitrary and capricious agency action within the meaning of 5 U.S.C. § 706(2). The Denial Decision offers no

explanation whatsoever to justify the denial and provides no indication that the agency examined the record or exercised reasoned discretion.

Because the Denial Decision contains no articulated reasoning, Petitioner is deprived of any meaningful opportunity for review. The decision does not explain whether, or how, the agency considered the cited prior art and publications, Petitioner's statutory right to seek inter partes review, or record evidence bearing on discretionary considerations, including issues relevant to any asserted settled-expectations rationale. An unexplained, conclusory denial of this nature precludes meaningful review and is therefore not in accordance with law.

Under settled administrative-law principles, agency action that fails to disclose the basis for the decision must be set aside. *See* 5 U.S.C. § 706(2)(A). Accordingly, the Denial Decision is unlawful and should be vacated.

Director intervention is warranted to correct this error. Vacating the Denial Decision and remanding the Petition to the Board for merits-based consideration would restore compliance with the APA, ensure faithful application of the AIA, and advance Congress's objective of improving patent quality by preventing improperly issued patents from continuing to enjoy unwarranted monopoly rights.

E. The October Memo Should Not Be Applied Retroactively to Petitions Filed Before Its Issuance

Any change to IPR institution procedure announced after a petition is filed may not be applied retroactively to that proceeding. Retroactive application of agency rules or procedural changes is strongly disfavored and impermissible absent clear congressional authorization. As the Supreme Court has held, “retroactivity is not favored in the law,” and “administrative rules will not be construed to have retroactive effect unless their language requires this result.” *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988). The Supreme Court has further emphasized that agencies may not attach new legal consequences to completed acts without fair notice. *Landgraf v. USI Film Prods.*, 511 U.S. 244, 265 (1994) (holding “The Due Process Clause also protects the interests in fair notice and repose that may be compromised by retroactive legislation”). Consistent with these principles, the D.C. Circuit has made clear that “[a]n agency may not promulgate retroactive rules absent express congressional authority.” *Nat’l Mining Ass’n v. Dep’t of Labor*, 292 F.3d 849, 859 (D.C. Cir. 2002).

Inter partes review is a congressionally created alternative to district-court litigation for challenging patents that should not have been issued, offering significant efficiency and economic advantages. A petitioner’s decision to initiate and pursue IPR necessarily depends on the procedural framework governing

institution. Any material change to that framework alters the legal landscape against which a petitioner assesses whether and how to seek review.

Here, the October Memo fundamentally altered the IPR institution framework after this Petition was filed. The Petition was filed on August 20, 2025, in reliance on the statutory and regulatory scheme then in effect, including 35 U.S.C. §§ 311–314 and 37 C.F.R. Part 42, which assign institution determinations to the Board under defined standards. Applying a subsequently announced Director procedure to deny institution would improperly attach new legal consequences to Petitioner's completed filing, deprive Petitioner of fair notice, and constitute agency action not in accordance with law and in excess of statutory authority under 5 U.S.C. § 706(2)(A) – (C).

Accordingly, the Denial Decision cannot lawfully rest on the retroactive application of a post-filing procedural change. The Decision should therefore be vacated.

VIII. Conclusion

For the reasons stated above, the Petitioner respectfully requests that the Director vacate the discretionary denial and remand for institution on the merits.

Dated: January 15 , 2026

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