UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SK HYNIX, INC.,

Petitioner

v.

ADVANCED MEMORY TECHNOLOGIES, LLC,

Patent Owner

IPR2025-01449
U.S. Patent No. 8,593,888

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

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I. INTRODUCTION

Patent Owner's request for discretionary denial should be rejected. The strength of the references identified in the Petition, including Tomita and Nakayama, plainly demonstrates that it is appropriate for the Board to evaluate the validity of the '888 patent claims. For Tomita, Patent Owner identifies no meaningful distinction except to directly contradict its infringement position with respect to the "one regulator" limitation. For Nakayama, all that Patent Owner attempts to rebut is the meaning of a dotted rectangle as shown in a figure. But not only is Patent Owner's interpretation unsupported by any admissible evidence and contrary to standard industry practice, it is also facially inconsistent with the Nakayama reference itself, as explained in the Petition itself and herein.

Moreover, Patent Owner cannot credibly claim that it had "settled expectations." The '888 Patent was never commercialized, asserted, or marked, and Patent Owner has owned the patent for less than 2 years. Indeed, Patent Owner did not exist as an entity until March 19, 2024, a mere *six days* before it acquired the '888 Patent. On the other hand, Petitioner had strong settled expectations of freedom to operate. Petitioner practiced and commercialized the accused technology for 13 years before Patent Owner acquired the '888 Patent to file the District Court lawsuit.

The *Fintiv* factors, on balance, also favor referral. Petitioner is challenging all five patents asserted in the District Court proceeding, and the strong merits of the

Petitions support institution and a meaningful possibility of a stay. The District Court litigation is in an early stage, with over 4 months left before the *Markman* hearing, and the actual trial date in the District Court proceeding will likely be merely days apart from the FWD. Petitioner has filed a broad stipulation that removes any overlapping issues between the Petition and the District Court proceeding.

Petitioner respectfully requests referral to the Board for merits assessment.

II. ARGUMENT

A. The Strong Merits of the Petition Warrant Referral

The merits of the petition are strong and weigh against discretionary denial. All four Grounds in the Petition, which are based on either Tomita or Nakayama, demonstrate how each asserted claim is anticipated or rendered obvious, and Patent Owner has presented no reasonable rebuttal.

With respect to Grounds 1-3, Patent Owner does not dispute that Tomita's "boost circuit WL/SL C.P.1" maps to the claimed "one regulator." *See* Petition at 19. But Patent Owner insists that Tomita contains two *other* regulators and thus fails to satisfy the claim. Paper 7 at 13. Patent Owner's argument, however, conflicts with the very position that it has taken in the District Court proceeding for infringement, where it identified two *distinct* regulators as allegedly meeting the claimed "one regulator" limitation:

[redacted]

EX-1024 at 5. Indeed, to distinguish the Tomita prior art, Patent Owner appears to assume that one must show the *absence of all other circuitry* that could be considered a regulator in order to meet the claimed "one regulator" limitation, but nowhere did Patent Owner even attempt to show the same when asserting infringement in the District Court. *See id.* (no assertion that the accused products contained no other regulators beyond the two identified above in blue box).

With respect to Ground 4, Patent Owner argues the circuitry in the second dotted rectangle in Nakayama does not repeat that of the first dotted rectangle.

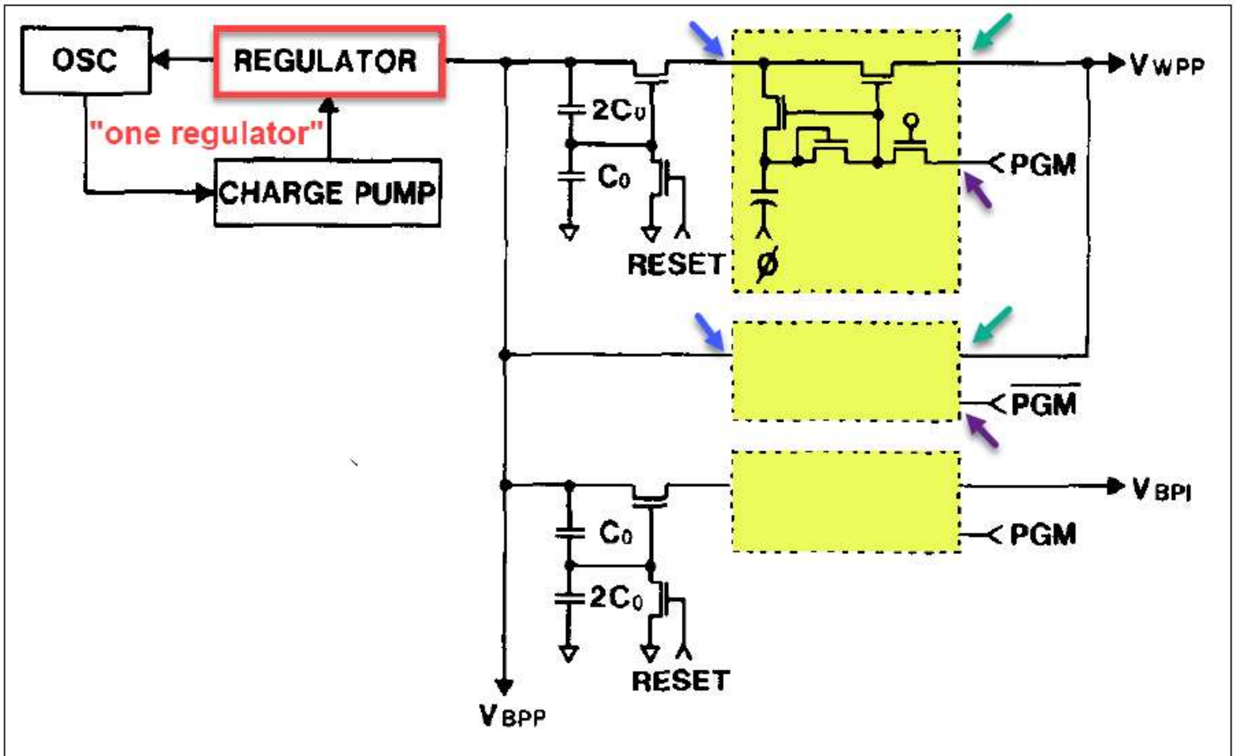

Fig. 7. Block diagram of high-voltage generator.

Petition at 80. Patent Owner's contention is unsupported and incorrect when viewed in the context of Nakayama as a whole.

For example, each dotted rectangle has the ***same*** number of inputs and outputs, at the ***same*** locations, shown in blue, green, and purple arrows above. As a common sense would support and as Dr. Khatri explained, a POSITA would have understood the dotted rectangles to refer to repeated circuitry, which is presented this way for simplicity. EX-1003, ¶173. The completed circuitry, shown below, demonstrates that the number and location of each input/output of the second dotted box match exactly the circuitry presented in the first dotted box. *See* Petition at 81.

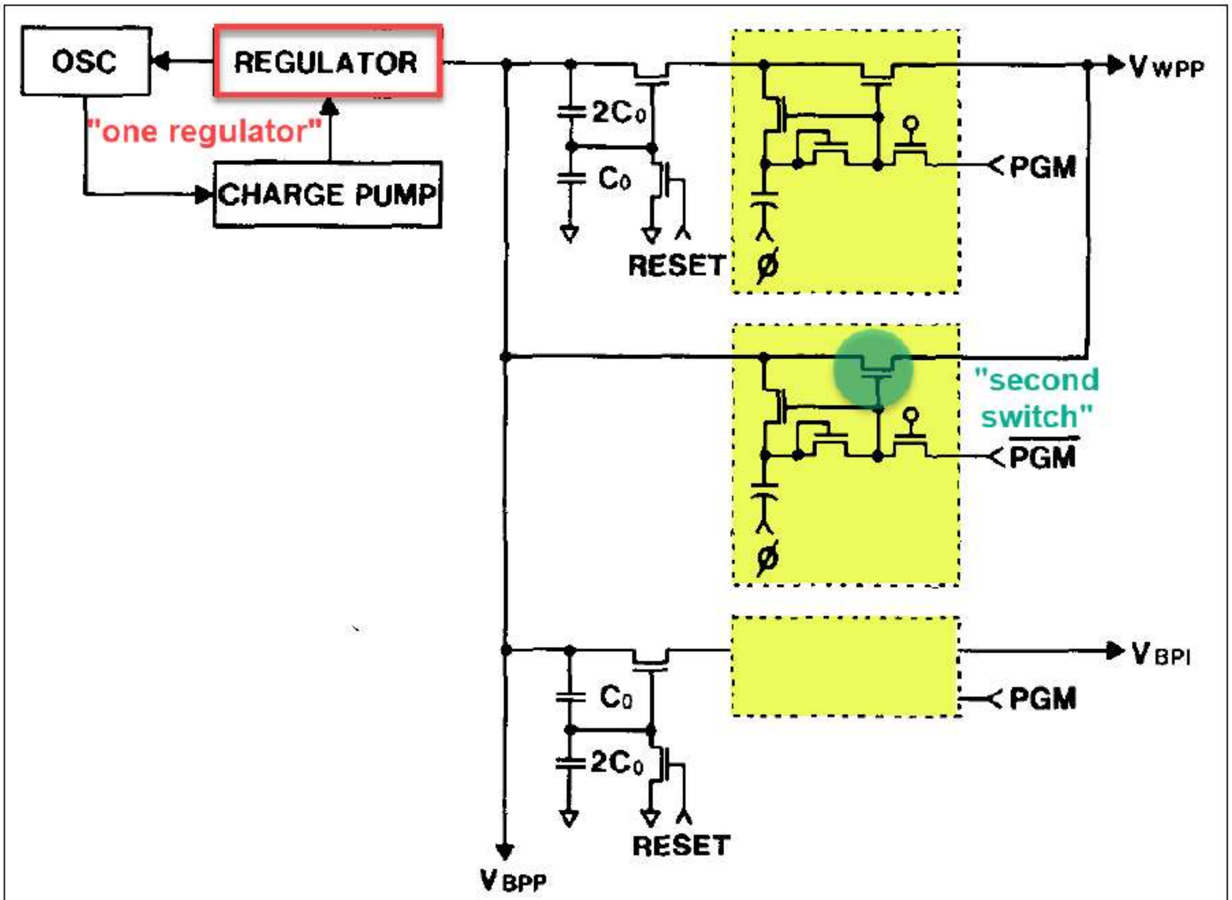

Fig. 7. Block diagram of high-voltage generator.

Furthermore, Nakayama's clock timing diagram (Fig. 6) makes it abundantly clear that the same circuitry is repeated in both dotted rectangles. *See* Petition at 93. Specifically, the timing diagram demonstrates that when PGM is "L" (*i.e.*, logic low), the $\overline{\text{PGM}}$ input to the second dotted rectangle is "H" (*i.e.*, logic high), thereby causing the transistor (marked as "second switch") in the second dotted rectangle to be switched on, and the output of the regulator (*i.e.*, V_{pp}) is directly applied to the V_{wpp} output. *See id.* at 92-93. In this scenario, the same transistor in the first dotted rectangle is turned off and does not affect the output. *See id.* This is reflected in the green-highlighted portion below, which shows that when PGM is "L," V_{wpp} is "H."

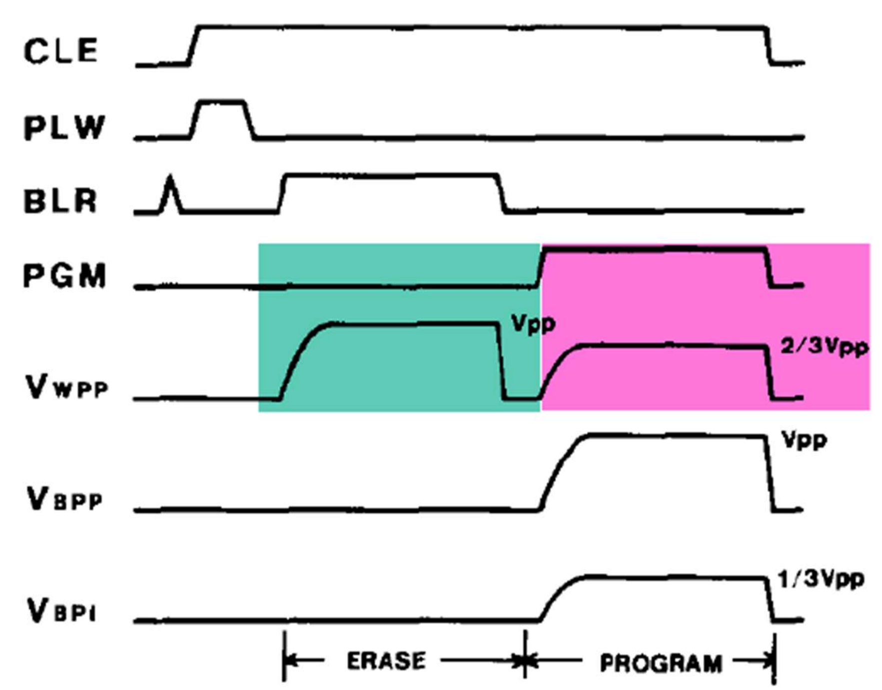

Fig. 6. Clock timing diagram.

On the other hand, when PGM is "H" (*i.e.*, logic high), the circuitry within the first dotted rectangle is turned on and the circuitry within the second dotted rectangle is turned off. This causes the output of the regulator (*i.e.*, V_{pp}) to pass through a divider (*i.e.*, $2C_0$ vs $1\ C_0$) to become 2/3 V_{pp}, which is then applied via the first dotted rectangle to V_{wpp}. *See* Petition at 93-94. This is shown in the magenta-highlighted portion above. In sum, the output at V_{wpp} is V_{pp} when PGM is "L," and 2/3 V_{pp} when PGM is logic "L," exactly as shown in the timing diagram in Fig. 6 above.

Patent Owner's suggestion that the dotted rectangles "indicate that portion of the circuitry is not relevant to the discussion" is unsubstantiated, defies common sense, and is contrary to the express disclosures of Nakayama, as shown above. In its discretionary denial briefing, Patent Owner does not allege any other deficiencies in the disclosures of Tomita and Nakayama.

B. Petitioner's Settled Expectations Outweigh Patent Owner's

The parties' settled expectations weigh against discretionary denial. "There may be persuasive reasons why the Board should review challenged claims several years after their issuance date." *Intel Corp. v. Proxense LLC*, IPR2025-00327, Paper 12, p. 2 (June 26, 2025). For example, "a patent may have been in force for years but may not have been commercialized, asserted, marked, licensed, or otherwise applied in a petitioner's particular technology space, if at all." *Id*. Such considerations, as are the case here, "weigh against a patent owner's claim of settled expectations and bears on the Director's decision." *Id*.

The '888 Patent was never commercialized, asserted, or marked. In fact, ever since Petitioner identified unmarked practicing products under the *Artic Cat* framework in July 2025 (EX-1024), Patent Owner has failed to present *any evidence* that it met its marking obligations with respect to the '888 Patent.

Moreover, Patent Owner cannot possibly have had "settled expectations" when it has only owned the '888 Patent for less than two years and did not exist as an entity until March 19, 2024, a mere *six days* before it acquired the '888 Patent. *See* EX-1025, EX-1026. The age of the '888 Patent alone is insufficient to establish settled expectations of the Patent Owner, who has not conducted any research, development, testing, or "otherwise applied in [] [P]etitioner's particular technology space" at all. *Intel*, IPR2025-00327, Paper 12, pp. 2-3.

Rather, it was Petitioner who had settled expectations of freedom to operate. Petitioner has commercialized the accused products and predecessors of the accused products for over a decade. For example, Patent Owner accuses an "embedded flash memory" in Petitioner's DRAM products of infringement, [redacted] EX-1028. In other words, Petitioner had been practicing the accused technology for 13 years before Patent Owner acquired the '888 Patent. But during that entire time, none of the prior owners of the '888 Patent had even remotely suggested Petitioner's products ([redacted]) were infringing, until Patent Owner filed the District Court complaint on December 30, 2024, asserting the '888 Patent for the first time since its creation.

The total silence in the years preceding Patent Owner's existence where the '888 Patent was never asserted is hardly surprising. To support its claim of infringement, Patent Owner had to re-interpret the '888 Patent claims beyond recognition. As but one example, while the ’888 Patent expressly requires “one regulator,” Patent Owner has identified *two regulators* for that limitation while disregarding the plurality of *other regulators* that exist in the accused products. EX-1024 at 5. Patent Owner has no basis to claim settled expectations in this broad interpretation of the ’888 Patent, particularly when it was expressly disclaimed in Patent Owner’s briefing (*see* Paper 7 at 13) and never manifested by any prior owners (or inventors) of the patent.

Under circumstances like the ones at issue here, the age of the ’888 Patent should weigh against discretionary denial, not in favor of it. *See Anthony Inc. v. ControlTec, Inc.*, IPR2025-00559, Paper 12, at 2 (July 16, 2025) (petitions involving 17- and 18-year-old patents referred to merits panel); *Taiwan Semiconductor Manufacturing Company Ltd. et al. v. Marlin Semiconductor Ltd.*, IPR2025-00847, Paper 11 (Sept. 3, 2025) (15-year-old patent); *Tesla v. Navy*, IPR2025-00341, Paper 12 (June 13, 2025) (18-year-old patent); *Tesla v. Intell. Ventures II*, IPR2025-00339, Paper 9 (June 13, 2025) (14-year-old patent).

C. The PTAB is Better Suited to Adjudicate the Complex Subject Matter Claimed in the ’888 Patent

As the Board found in *Tesla*, the Board is better suited to handle the “large number and vast scope” of patents directed toward “a diverse range of subject matter.” *Tesla, Inc. v. Intell. Ventures II LLC*, IPR2025-00217, Paper 9, at 2-3.

Here, all five asserted patents, including the ’888 Patent, are directed to complex technologies relating to the operations, physics, and/or circuit design of semiconductor memory devices. The asserted patents claim details that require in-depth knowledge and understanding of semiconductor memory devices, including:

- ’888 and ‘835 Patents – structures and operations of electrically erasable programmable read only memory (EEPROM)
- ’231 Patent – structures and operations of an internal voltage generating circuit with serially connected charge pump circuits
- ’557 and ’018 Patents – structures and operations of a boost circuit with cross-coupled charge pump stages

Indeed, IPR challenges of patents in the same or similar technology area have been instituted and discretionary denial requests rejected. *See, e.g.*, *Taiwan Semiconductor*, IPR2025-00847, Paper 11. The Director should similarly reject Patent Owner’s discretionary denial request here.

D. The *Fintiv* Factors Weigh Against Discretionary Denial

1. *Fintiv* Factor 1: Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted

Patent Owner’s reliance on the District Court’s denial of Petitioner’s *first* motion for stay is misplaced. Notably, the District Court denied that motion *without prejudice* to refile after institution. EX2005. And even Patent Owner’s own cited authority plainly states that, “where the PTAB has instituted IPR proceedings … as to all claims of all asserted patents, this Court has [] ***routinely stayed cases***.” *See*

Paper 7 at 7 (citing *AGIS Software Dev. LLC v. Google LLC*, No. 2:19-cv-359-JRG, 2021 WL 465424, at *2 (E.D. Tex. Feb. 9, 2021)); *see generally*, *Maxeon Solar Pte. Ltd. v. Canadian Solar Inc.*, No. 2:24-CV-210-JRG, 2025 WL 1811321, at *3 (E.D. Tex. July 1, 2025) (granting motion to stay when "the PTAB instituted the IPRs of [Plaintiff's originally asserted] claims"); *RavenWhite Licensing LLC v. Home Depot, Inc.*, No. 2:23-CV-00423-JRG-RSP, Dkt. 96 (E.D. Tex. Jun. 18, 2025) (same); *Harbor Island Dynamic, LLC v. Samsung Elecs. Co.*, No. 2:24-CV-00140-JRG-RSP, Dkt. 81 (E.D. Tex. May 19, 2025) (same).

Indeed, the District Court has previously granted a stay even where only a *subset* of the challenged claims were instituted. *See, e.g.*, *Cellular Commc'ns Equip., LLC v. Samsung Elecs. Co.*, No. 6:14-CV-759, 2015 WL 11143485, at *4 (E.D. Tex. Dec. 16, 2015) (granting Defendant's motion for *partial* stay when IPR petitions involving a subset of asserted claims were instituted). Here, Petitioner has filed IPR Petitions challenging all five patents asserted in the District Court, and the merits of the Petitions are exceedingly strong. *See, e.g.*, Sect. II.A.6, *infra*. There is a meaningful possibility that the District Court case will be stayed.

Accordingly, this factor weighs against discretionary denial.

2. *Fintiv* Factor 2: Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision

As Patent Owner concedes in its briefing, no claim construction briefing, *Markman* hearing, or expert discovery has even commenced in the District Court proceeding. *See* Paper 7 at 8. And fact discovery is still ongoing, with no depositions having taken place except one related to the parties' venue dispute. While Patent Owner leans heavily on a "projected trial date" (*id.* at 9) that occurs approximately five months before the final written decision deadline, the actual trial date in the District Court often takes place months later. The table below compares the actual trial date and "projected trial date" for recent cases tried in the District Court:

Case	**Projected Date**	**Actual Date**	**Difference**
Headwater v. Samsung, 2:22-cv-422-JRG-RSP	8/5/2024 (Dkt. 57)	1/13/2025 (Dkt. 488)	5 months
Force Mos v. ASUSTek, 2:22-cv-460-JRG	10/7/2024 (Dkt. 23)	2/7/2025 (Dkt. 349)	4 months
Touchstream v. Charter, 2:23-cv-59-JRG-RSP	10/28/2024 (Dkt. 61)	3/3/2025 (Dkt. 366)	4 months
Headwater v. Samsung, 2:23-cv-103-JRG-RSP	1/6/2025 (Dkt. 63)	4/21/2025 (Dkt. 420)	3.5 months
Multimedia v. LG Elecs., 2:22-cv-494-JRG-RSP	11/18/2024 (Dkt. 34)	5/19/2025 (Dkt. 288)	6 months
Daingean v. T-Mobile, 2:23-cv-347-JRG-RSP	4/7/2025 (Dkt. 55)	7/7/2025 (Dkt. 454)	3 months
Daingean v. AT&T, 2:23-cv-123-JRG-RSP	1/6/2025 (Dkt. 48)	9/5/2025 (Dkt. 566)	8 months
Pictiva v. Samsung, 2:23-cv-495-JRG-RSP	8/4/2025 (Dkt. 40)	10/27/2025 (Dkt. 556)	2.5 months
		Average	**4.5 months**

As shown, the actual trial date is, on average, 4.5 months after the projected trial date that Patent Owner relies upon, which would place the trial in the District

Court in late February 2027, merely days before March 1, 2027 statutory deadline on which a final written decision will issue. This factor is thus, at best, neutral.

3. *Fintiv* Factor 3: Investments in the parallel proceeding by the court and the parties

The District Court litigation will still be in an early stage at the time of the expected institution decision. The *Markman* hearing is scheduled for April 10, 2026 and close of fact discovery is not until May 18, 2026, both occurring well after March 2, 2026, the projected institution decision deadline. As the Board has found in the past, where a claim construction order is unlikely to issue until after the expected institution date, as here, this factor weighs against discretionary denial. *See generally*, *Med-El Elektromedizinische Geräte Ges.m.b.H. v. Advanced Bionics AG*, No. IPR2020-00190, 2020 WL 3033320, at *5 (P.T.A.B. June 3, 2020) (weighing factor 3 in favor of institution where "a claim construction order will not have issued" at the time of the institution decision); *Facebook, Inc. v. Usc Ip P'ship, L.P.*, No. IPR2021-00033, 2021 WL 1718801, at *5 (P.T.A.B. Apr. 30, 2021) (weighing in factor 3 in favor of institution where "[t]he district court proceeding is still at a relatively early stage"). This factor thus weighs against discretionary denial.

4. *Fintiv* Factor 4: Overlap between issues raised in the petition and the parallel proceeding

Petitioner has filed a stipulation broader than a *Sotera* stipulation, eliminating all overlapping issues between the petition and the District Court proceeding. *See*

Paper 6. Specifically, Petitioner stipulated that:

> if the Board institutes inter partes review in this proceeding, IPR2025-01449, Petitioner will not pursue in the parallel litigation, *Advanced Memory Technologies, LLC v. SK hynix Inc.*, Case No. 2:24-cv-01078-JRG (E.D. Tex.), (*i*) the specific grounds raised in IPR2025-01449; (*ii*) any grounds of invalidity arising under 35 U.S.C. § 102 or § 103 involving only patent or printed publication prior art that could have reasonably been raised before the Board with respect to U.S. Pat. No. 8,593,888, including the same grounds in the Petition (Paper 1); or (*iii*) any ground based on a combination of system prior art and the references asserted as part of a ground raised in IPR2025-01449, as reflected in the table summarizing the statutory grounds for challenges in Section I of the Petition.

Id. Petitioner's stipulation mirrors the "broad stipulation" that the Board has recently identified and found to "tip the balance against discretionary denial." *See, e.g.*, *Shenzhen Tuozhu Technology Co., Ltd v. Stratasys Inc.*, IPR2025-00531, Paper 10 at 3 (July 17, 2025); *Tesla, Inc., Intellectual Ventures II LLC*, IPR2025-00217, Paper 9 at 2.

Patent Owner misrepresents the scope of Petitioner's stipulation by arguing that "Petitioner intends to try validity based on purported prior art in both the District Court Proceeding and this IPR." Paper 7 at 12. But Patent Owner misses the point because this factor evaluates the extent of the overlap of the issues raised in both proceedings, not simply whether Petitioner raises an invalidity defense. While Petitioner intends to present in the District Court proceeding certain *system* prior art, there are no overlapping issues because such prior art is not statutorily permitted in an IPR petition. 35 U.S.C. § 311 (b). Petitioner's stipulation further precludes any overlap by clarifying that, in the District Court, Petitioner will not pursue "any ground based on a combination of system prior art and the references asserted as part of a ground raised in [this IPR]." Paper 6 at 2.

Patent Owner also takes issue with the timing of Petitioner's stipulation, but cites no authority that it was untimely filed. Instead, Petitioner's stipulation was filed "as soon as practicable," upon evaluation of *system* prior art, many of which are at the exclusive possession of third-parties, and provided Patent Owner ample opportunity (*i.e.*, over two weeks) to "address the impact of the stipulation in its discretionary denial brief." Interim Director Discretionary Process at § I.D. Patent Owner suffered no prejudice.

Accordingly, this factor weighs against discretionary denial.

5. *Fintiv* Factor 5: Whether the petitioner and the defendant in the parallel proceeding are the same party

The Petitioner here is the same party as the defendant in the district court case. Although this factor may weigh slightly in favor of discretionary denial, it does not outweigh the other factors discussed above.

6. *Fintiv* Factor 6: Other circumstances that impact the Board's exercise of its discretion, including the merits

As discussed above and in the Petition, Tomita and Nakayama each anticipate and/or render obvious the challenged claims, and the only disputes identified by

Patent Owner are either inconsistent with its own infringement allegations or with the Nakayama reference itself. The merits of the petition thus weigh strongly against discretionary denial.

III. CONCLUSION

Petitioner respectfully requests referral of the Petition to the Board.

Respectfully submitted,

December 1, 2025

By: /s/ *James M. Glass*

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6, I hereby certify that on December 1, 2025, the foregoing document, Petitioner's Opposition to Patent Owner's Request for Discretionary Denial, and Exhibits 1024-28 were served via email on the following counsel of record:

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