UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SK HYNIX INC.,

Petitioner

v.

ADVANCED MEMORY TECHNOLOGIES, LLC,

Patent Owner

Case IPR2025-01449
Patent 8,593,888

PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,593,888

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EXHIBIT LIST

Exhibit	Description
2001	Complaint for Patent Infringement, *Advanced Memory Techs., LLC v. SK Hynix Inc.*, No. 2-24-cv-01078, Dkt. No. 1, filed Dec. 30, 2024 (E.D. Tex.)
2002	Amended Complaint for Patent Infringement, *Advanced Memory Techs., LLC v. SK Hynix Inc.*, No. 2-24-cv-01078, Dkt. No. 25, filed April 2, 2025 (E.D. Tex.)
2003	Second Amended Docket Control Order, *Advanced Memory Techs., LLC v. SK Hynix Inc.*, No. 2-24-cv-01078, Dkt. No. 27, filed April 11, 2025 (E.D. Tex.)
2004	Complaint for Patent Infringement, *Advanced Memory Techs., LLC v. Micron Tech. Inc.*, No. 1-25-cv-01036, Dkt. No. 1, filed June 30, 2025 (W.D. Tex.)
2005	Order Denying Motion for Stay Pending *Inter Partes* Review, *Advanced Memory Techs., LLC v. SK Hynix Inc.*, No. 2-24-cv-01078, Dkt. No. 79, filed Sept. 3, 2025 (E.D. Tex.)
2006	United States District Courts — National Judicial Caseload Profile (including data through June 30, 2025), https://www.uscourts.gov/sites/default/files/document/fcms_na_distprofile0630.2025.pdf (accessed October 10, 2025).
2007	Defendant SH Hynix's Preliminary Invalidity Contentions Cover Pleading, *Advanced Memory Techs., LLC v. SK Hynix Inc.*, No. 2-24-cv-01078, served June 25, 2025 (E.D. Tex.)
2008	Omnibus Obviousness Chart D-OB for U.S. Patent No. 8,593,888, *Advanced Memory Techs., LLC v. SK Hynix Inc.*, No. 2-24-cv-01078, served June 25, 2025 (E.D. Tex.)
2009	RESERVED
2010	RESERVED
2011	Docket Navigator Time To Trial Statistics for Judge Rodney Gilstrap for October 20, 2024 through October 20, 2025
2012	Lex Machina Time to Trial Statistics for Judge Rodney Gilstrap for October 20, 2024 through October 20, 2025

I. INTRODUCTION

The Petition filed by SK Hynix Inc. ("Petitioner" or "Hynix") fails to show a reasonable likelihood that Hynix would prevail with respect to any of the challenged claims (claims 1, 3, 5, 20, and 21) of U.S. Patent No. 8,593,888 (the "'888 Patent"). The Petition's theories suffer from many infirmities, but this preliminary response focuses on two flaws, which in combination are fatal to all of the asserted Grounds.[1]

First, Grounds 1–3 fail because they rely on Tomita as the principal reference, and Tomita fails to teach the *one regulator* limitation required by every challenged claim. In addition to structure Hynix identifies as the regulator for this limitation, Tomita's device includes at least two more regulators. Yet Hynix admits "the alleged invention of the '888 Patent is the use of a *single regulator*." Petition at 11. Despite this, Petitioner fails to address Tomita's disclosure of multiple regulators, contrary the '888 Patent's requirement that the claimed invention uses a single regulator.

Second, Ground 4 fails because Nakayama—the allegedly anticipatory reference—does not disclose the *second switch* limitation of claim 1, which is incorporated by dependency into every challenged claim. Indeed, for this limitation,

[1] Because these flaws preclude a "reasonable likelihood of prevailing" as to all challenged claims, AMT need not address the Petition's other flaws. AMT reserves the right to address each of these flaws in the event of institution.

Hynix filled in literal gaps in Nakayama, adding circuitry that Nakayama does not disclose. Hynix has zero evidence that Nakayama discloses the added circuity. Rather, Hynix drew in this circuitry because, without it, Nakayama does not include all of the limitations of claim 1. Hynix does not even attempt to argue inherency, and it would nonetheless fail to meet this exacting standard.

Accordingly, Patent Owner Advanced Memory Technologies, LLC ("AMT") respectfully requests that the Director decline to institute *inter partes* review ("IPR"). 35 U.S.C. § 314(a).

II. BACKGROUND[2]

A. The '888 Patent Invention

The '888 Patent was invented by Reiji Mochida, Takafumi Maruyama, and Yukimasa Hamamoto of Panasonic Corporation, EX1001 at (75), a leader and pioneer in the development and manufacture of electronic equipment including semiconductors and cameras. The '888 Patent issued on November 26, 2013 from an application filed August 22, 2012 and claims priority to a Japanese application filed March 10, 2010. *Id*. at (45), (22), (30).

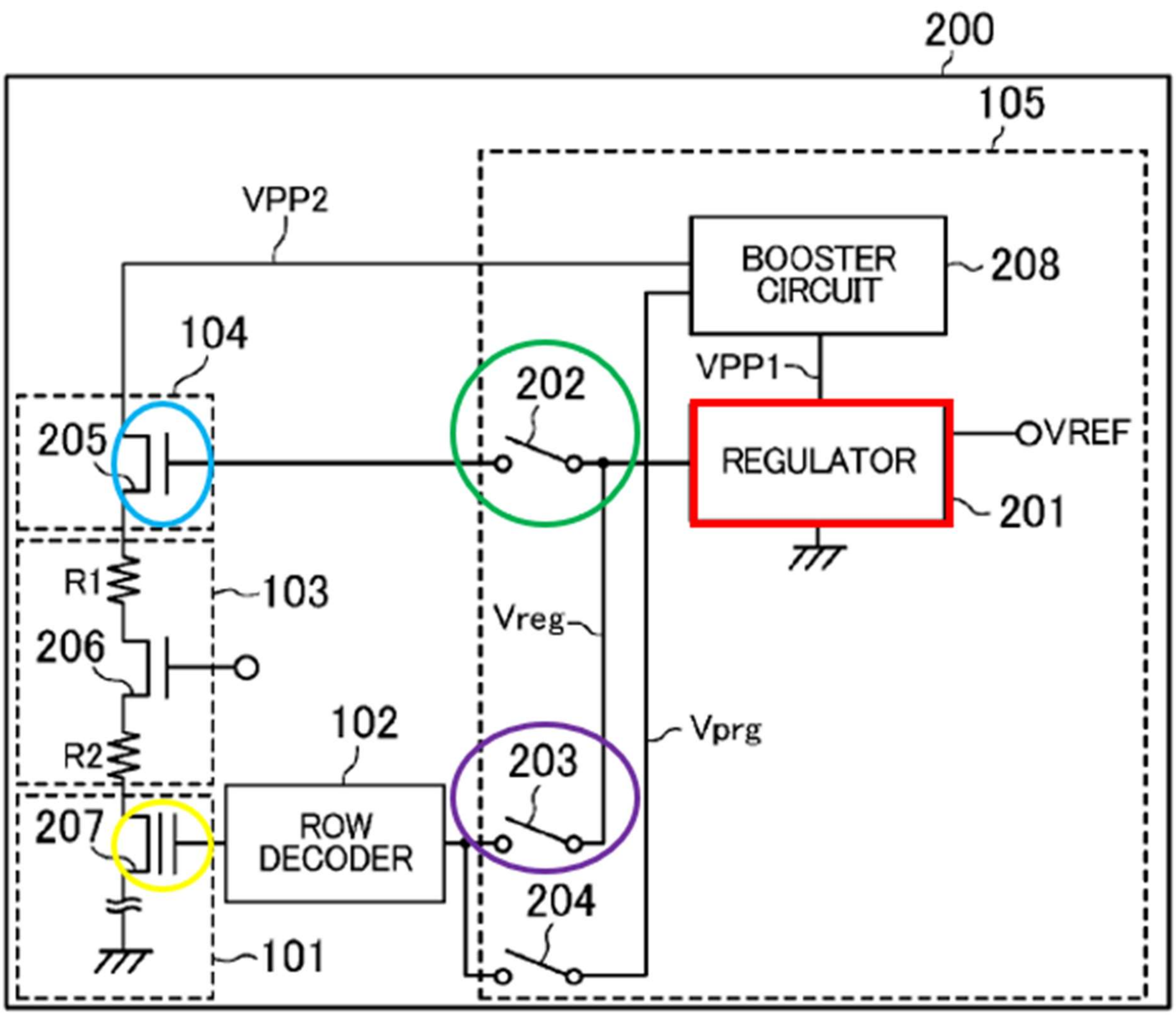
[2] Solely for purposes of demonstrating the Petition's lack of merit in this preliminary response, AMT relies on the Petition's own evidence. AMT reserves the right to offer its own evidence, including evidence contrary to Petitioner's.

The ’888 Patent generally “relates to semiconductor memory devices, and more particularly to nonvolatile memory such as electrically erasable programmable read only memory (EEPROM).” EX1001 at 1:16–19. It has 21 claims, *id.* at 9:27–13:10, but the Petition only challenges claims 1, 3, 5, 20, and 21. Petition at 5. Of the challenged claims, only claim 1 is independent, and the other challenged claims each depend from claim 1. EX1001 at 9:28–43, 9:58–62, 10:1–9, 13:5–10. Thus, the challenged claims all incorporate the limitations of independent claim 1.

The ’888 Patent is more specifically directed to a memory device where “one regulator [is] used as both the regulator for the drain voltage of the memory cell used in the first mode and the regulator for the gate voltage of the memory cell used in the second mode.” *Id.*, at 9:18–22; *see also id.*, at 1:40–45. The invention “is useful as a small-area semiconductor memory device, and is applicable to microcomputers.” *Id.*, at 9:22–24.

Prior to the ’888 Patent, “the output of a first regulator [was] coupled to the gate of a memory cell, and also the output of a second regulator [was] coupled to the gate of a voltage applying transistor, so that the gate voltage of the memory cell is regulated while a voltage is applied from the drain terminal of the voltage applying transistor to the drain terminal of the memory cell.” *Id.*, at 1:22–28. This “pose[d] a problem of increasing the circuit area.” *Id.*, at 1:34–39.

Instead of having a first regulator coupled to the gate of the memory cell and a second regulator coupled to the gate of the voltage applying transistor, as seen in Figure 2 below, the '888 Patent has just one regulator 201 (red) coupled to both of these circuit components (yellow and blue, respectively). *Id.*, FIG. 2.



EX1001, FIG. 2 (annotated)

Between the regulator 201 and the gate of the voltage applying transistor 205 (blue) is a first switch 202 (green). *Id.* Also, between the regulator 201 and the gate of the memory cell 207 (yellow) is a second switch 203 (purple). *Id.*

These features can also be seen in the recited limitations of claim 1, which reads as follows:

> 1. A semiconductor memory device capable of erasing and writing memory contents in a memory cell using an electric signal, comprising:
>
> the memory cell, *one regulator, first and second switches*, and a voltage applying transistor for applying a voltage to the memory cell,
>
> wherein
>
> an output of *the regulator* is coupled to inputs of *the first and second switches*,
>
> an output of *the first switch* is coupled to a gate of the voltage applying transistor,
>
> a voltage is applied from a drain terminal of the voltage applying transistor to a drain terminal of the memory cell, and
>
> an output of *the second switch* is coupled to a gate of the memory cell for application of a voltage.

Id., at 9:28–43 (emphasis added).

B. Hynix's Asserted Grounds

The Petition asserts the following four Grounds:

Ground	Basis	Reference(s)	Claims
1	§ 102 (anticipation)	Tomita	1 and 21
2	§ 103 (obviousness)	Tomita, in view of Im	1, 3, 5, 20, and 21

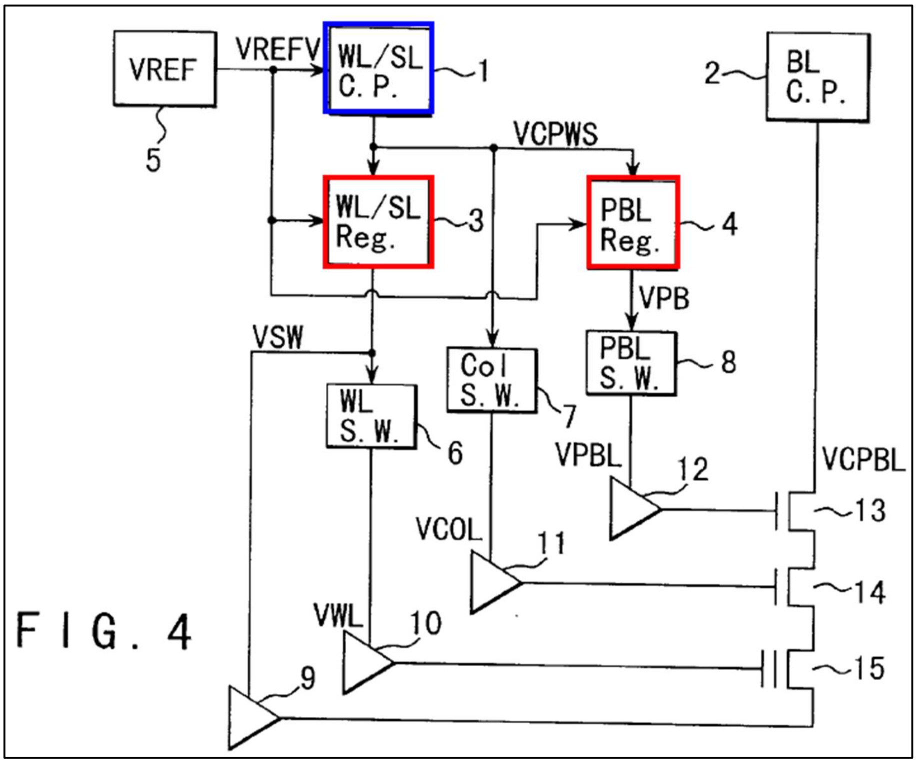
Ground	Basis	Reference(s)	Claims
3	§ 103 (obviousness)	Tomita, in view of Nam	1, 3, 5, and 21
4	§ 102 (anticipation)	Nakayama	1, 3, 5, and 21

Below, AMT provides summaries of the primary references, Tomita (EX1005) and Nakayama (EX1007), on which the Petition Grounds rely.

1. Tomita

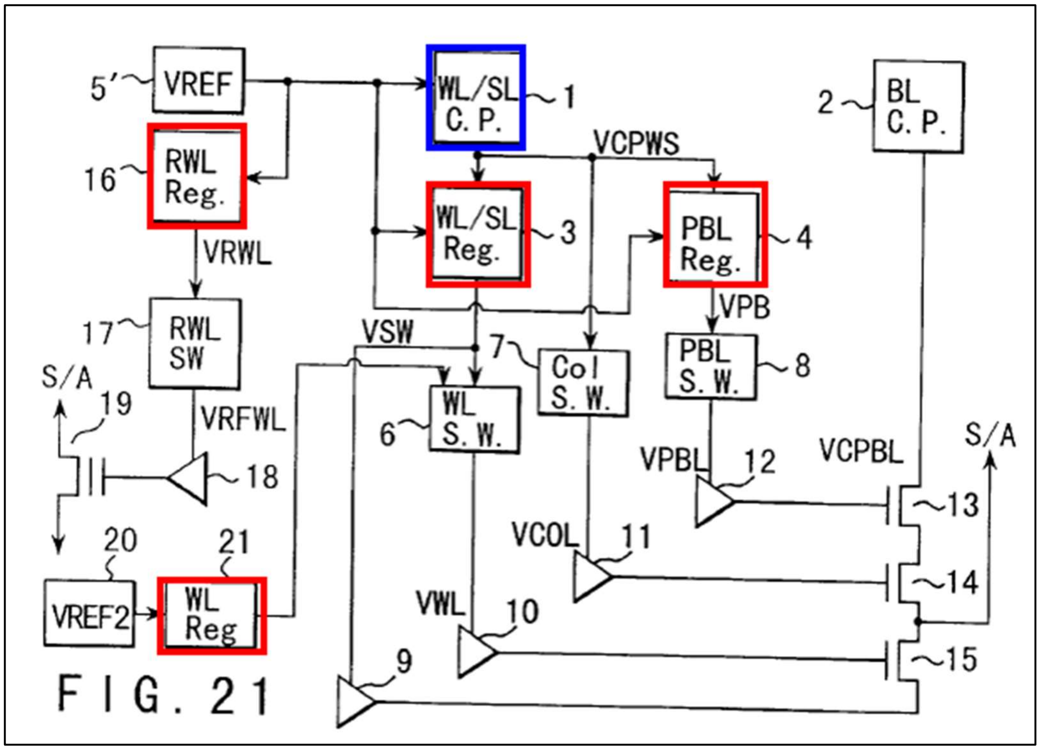
Tomita is directed to "a power source circuit device used for a semiconductor memory such as a flash memory, an EEPROM, or the like." EX1005 at 1:5–7. The Petition's Ground 1 relies on Tomita's first embodiment, which Tomita depicts in Figure 4, and Grounds 2 and 3 rely on Tomita's fifth embodiment, which Tomita depicts in Figure 21. Petition at 16, 29, 64; EX1005 at 5:56–60, 6:38–40. Accordingly, AMT's analysis centers on these same embodiments and figures.

Figure 4, reproduced below, "is a view of a structure of a power source circuit showing a first embodiment used for a non-volatile semiconductor memory having a structure in which an external high-voltage power source connected to a memory cell is replaced with a charge pump." EX1005 at 5:56–60. This charge pump is labeled as "the boost circuit WL/SL C. P. 1" (blue). *Id.* at 7:25–29. Connected to the charge pump 1 are two regulators (red), the "stepdown circuit WL/SL ***Reg.*** 3" and the "stepdown circuit PBL ***Reg.*** 4." *Id.* at 7:20–24 (emphasis added). (Not only does Tomita identify these "stepdown circuit[s]" as "Reg.," an abbreviation for "regulator," but Hynix concedes that a "step-down" circuit is a type of regulator. *See* Petition at 5; EX1003 ¶ 49.) Thus, the first embodiment on Tomita includes at least two regulators (3 and 4). This is in addition to the alleged regulator identified by Hynix. *See* Petition at 19.



EX1005, FIG. 4

Figure 21, reproduced below, "is a circuit configuration showing a fifth embodiment of the power source circuit used for a non-volatile semiconductor memory." EX1005 at 6:38–40. One of the differences between Figure 21 and Figure 4 is that Figure 21 includes at least ***four*** regulators, the "stepdown circuit WL/SL Reg. 3," the "stepdown circuit PBL Reg. 4," the "stepdown circuit RWL Reg. 16," and the "stepdown circuit WL Reg. 21." *Id.* at 7:20–24, 14:53–56, 16:53–59.



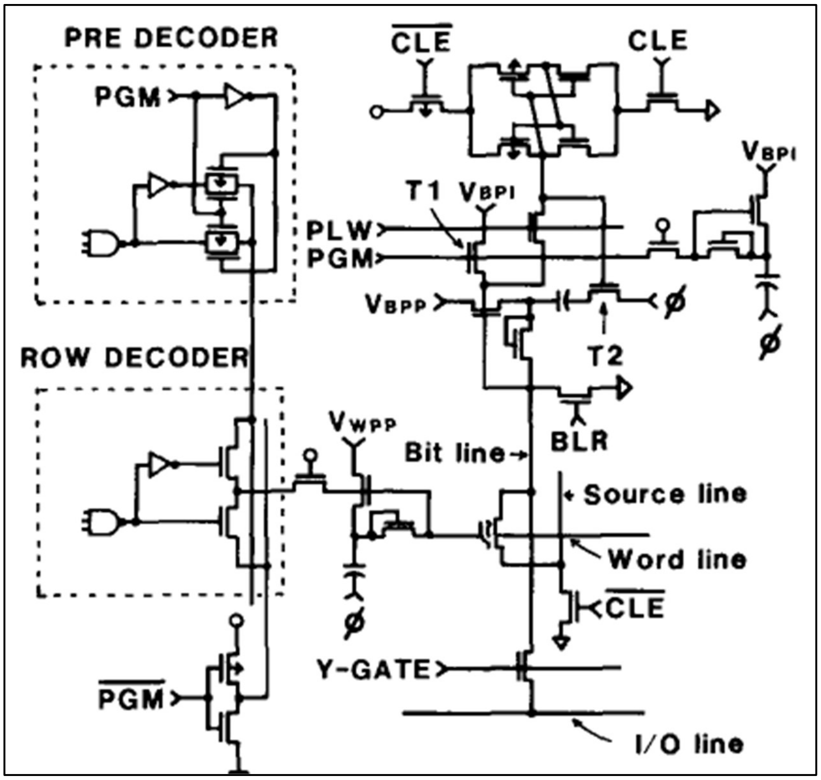
EX1005, FIG. 21

Again, Hynix identifies yet another structure as the alleged regulator of claim 1 in the Grounds that rely on Figure 21. *See* Petition at 43, 64.

2. Nakayama

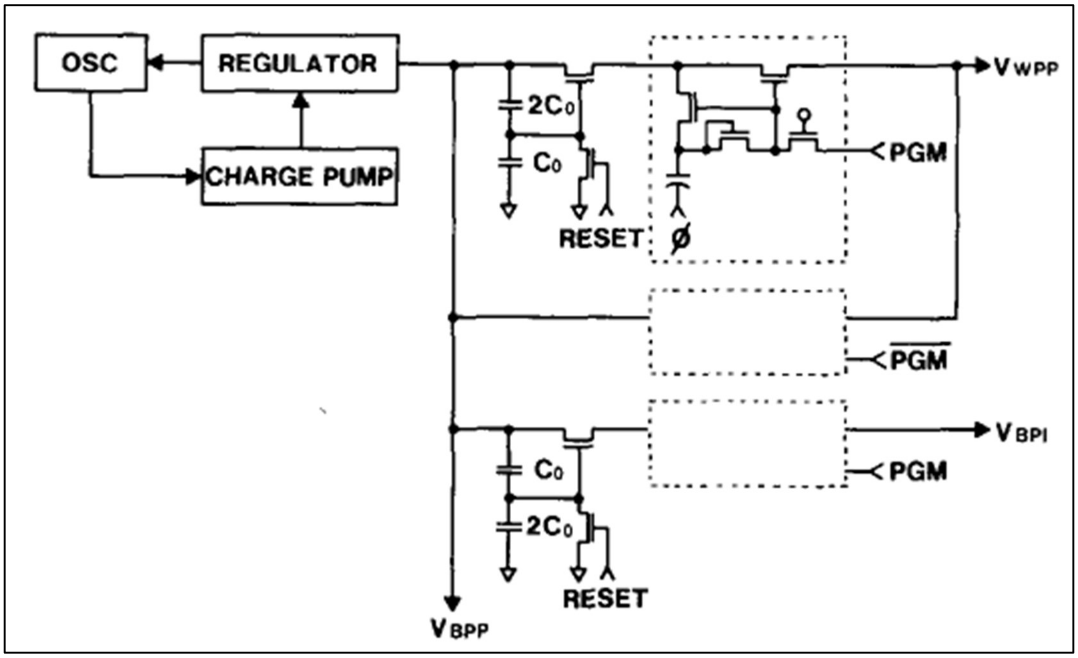
Nakayama is directed to a "5-V-only one-transistor 256K EEPROM with page-mode erase." EX1007 at 1. Figure 4 includes a block diagram of the 256K EEPROM, where Figure 5 is the circuit diagram of the column latch and row decoder and Figure 7 is the block diagram of the high voltage generator. *Id.*, at 2–3.

Both Figures 5 and 7, reproduced below, include several dashed boxes. Nakayama does not mention these boxes nor what they mean. *See id.*, at 3. In Figure 5, the two dashed boxes are labeled "PRE DECODER" and "ROW DECODER." *Id.* There is circuitry in both of the boxes in Figure 5, and the circuitry in the boxes is not identical. *Id.*



EX1007, Fig. 5

In Figure 7, none of the three dashed boxes are labeled. *Id.* Additionally, the top dashed box includes circuitry, but the bottom two boxes do not include circuitry. *Id.*



EX1007, Fig. 7

Nakayama's description of Figure 7 is only a single paragraph. *Id.* Nakayama does not disclose or suggest, in that paragraph or elsewhere, what circuitry may or may not be included in the bottom two dashed boxes in Figure 7. *See id.*

III. LEVEL OF ORDINARY SKILL IN THE ART

Hynix asserts that a person of ordinary skill in the art ("POSA") "would have at least a Bachelor of Science in electrical engineering, computer engineering, or similar fields with courses in integrated circuit design and at least two years of experience in the field of integrated circuit design for memories. More education can supplement for less experience, and vice versa." Petition at 12. It is unnecessary for AMT to propose a competing definition at this time because, even under Hynix's proposed definition, Hynix has failed to demonstrate a reasonable likelihood of success on any of the challenged claims. AMT reserves the right to propose a different

POSA definition if the Board institutes IPR.

IV. LEGAL STANDARDS

"In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (noting 35 U.S.C. § 312(a)(3) requires that petitions must identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim"). To meet this burden, "the petition must specify where ***each element of the claim*** is found in the prior art patents or printed publications relied upon." 37 C.F.R. § 42.104(b)(4) (emphasis added). And "the Board must base its decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016). The burden of persuasion on the petitioner never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Applying the foregoing substantive standards and burdens, "[t]he Director may not authorize an *inter partes* review to be instituted unless the Director determines . . . that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a).

When an expert declaration is "conclusory and unsupported," it is "entitled to little weight." *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (August

24, 2022) (precedential); *see also* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) ("Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.") (quoting *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985)); *Carella v. Starlight Archery & Pro Line Co.*, 804 F.2d 135, 138 (Fed. Cir. 1986) ("Although in some circumstances unsupported oral testimony can be sufficient to provide prior knowledge or use, it must be regarded with suspicion and subjected to close scrutiny.").

"A party must [] meet a high standard in order to rely on inherency." *Par Pharm., Inc. v. TWi Pharm., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014). "Inherency [] may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Oelrich*, 666 F.2d 578, 581 (C.C.P.A. 1981); *see also In re Rijckaert*, 9 F.3d 1531, 1533-34 (Fed. Cir. 1993) ("The mere fact that a certain thing may result from a given set of circumstances is not sufficient [to establish inherency]." (internal quotation omitted)).

V. CLAIM CONSTRUCTION

"[A] petition ***must*** state how a challenged claim is to be construed and how each element of the construed claim is found in prior art patents or printed publications." *Samsung Electronics Co., Ltd. v. Blaze Mobile, Inc.*, IPR2021-01569, Paper 16, at 5 (citing 37 C.F.R. § 42.104(b)(3)–(4)) (emphasis added).

A. "one regulator"

Hynix and its expert acknowledge that one of the inventive features of the '888 patent is the use of a single regulator. Petition at 11 ("[O]ne of ordinary skill in the art would have understood the alleged invention of the '888 Patent is the use of a ***single regulator*** . . .") (emphasis original); EX1003 ¶ 58 (same). Nevertheless, Hynix did not offer a construction of the "one regulator" limitation. Here, it is clear from the claim language and specification that "one regulator" means "only one regulator."[3]

First, the claim recites "***one*** regulator," using a particular number instead of an indefinite article (*a/an*) or ordinals (*first*, *second*, etc.), as used for all the other components of the claimed "semiconductor memory device." *See* EX1001 at 9:29–43. This indicates the drafter's intention that "one" does not mean "one or more," as is typical for indefinite articles in open-ended claims (like the claims here). Indeed,

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[3] The '888 Patent has no relevant prosecution history on this limitation. *See generally* EX1002.

even that typical construction of indefinite articles is not “a hard and fast rule.” *Harari v. Lee*, 656 F.3d 1331, 1341 (Fed. Cir. 2011). Rather, “[w]hen the claim language and specification indicate that ‘a’ means one and only one, it is appropriate to construe it as such even in the context of an open-ended ‘comprising’ claim.” *Id.*; *see also Insituform Techs., Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098, 1105–06 (Fed. Cir. 1996) (analyzing the “claims, specification and file history” to determine that “a vacuum cup” means one and only one vacuum cup).

Additionally, the specification criticizes the need for two regulators in a “conventional circuit configuration,” saying that it “poses a problem of increasing the circuit area.” EX1001 at 1:34–39; *see id.* at 1:22–28. The ’888 Patent proposes a solution—combining the two regulators, leaving only one regulator for both the gate voltage and the drain voltage. *Id.* at 1:40–45; *see id.* at 5:11–15 (“[A]ccording to the present disclosure, one regulator can serve as the regulator for the drain voltage of the memory cell used in the first mode and the regulator for the gate voltage of the memory cell used in the second mode, so that a small-area semiconductor memory device can be provided.”). Moreover, all the Figures in the ’888 Patent that depict the pertinent circuitry show only a single regulator. *Id.*, FIGS. 2, 4–7. The benefit of the claimed invention over the prior art—a smaller-area circuit—is a result of the novel design that uses ***only one*** regulator. The use of more than one regulator results in the very problem for which the conventional circuit was denigrated, the problem that the ’888 Patent solves.

The intrinsic evidence therefore shows that the “one regulator” claim limitation of claim 1 should be construed as “only one regulator.”[4] Neither Hynix nor its expert suggest otherwise. To the contrary, as noted above, both support this construction. *See* Petition at 11; EX1003 ¶ 58.

B. Other Terms

Here, Hynix only offered a proposed construction as to the wording of claim 5. Petition at 12. This Preliminary Response only addresses issues with independent claim 1. Thus, AMT does not address Hynix’s proposed construction of claim 5. AMT does not concede that Hynix’s proposed construction is correct and reserves the right to offer a different construction of claim 5 in the event IPR is instituted.

VI. PETITIONER FAILS TO SHOW A REASONABLE LIKELIHOOD OF PREVAILING ON ANY CLAIM

The Petition fails to show a reasonable likelihood of prevailing on any claim, under any Ground. As discussed below, Hynix fails to meet the threshold for

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[4] As the claim language and the specification suggest, the “one regulator” limitation refers to the use of a single regulator for both the gate voltage and the drain voltage. Neither the specification nor the claim language limit the entirety of the memory device to a single regulator.

institution on claim 1—the only challenged independent claim in the ’888 patent—for every Ground. Because all of the other challenged claims are dependent on claim 1, the Petition’s deficiencies with respect to claim 1 are fatal as to all challenged claims.[5]

A. Grounds 1–3 Fail Because Tomita’s Devices Include Multiple Regulators and Thus Do Not Disclose the “One Regulator” Limitation

Ground 1 fails because Tomita does not disclose the “one regulator” limitation of claim 1. As explained above, in light of the specification’s disclosure, “one regulator” in claim 1 means “only one regulator” for both the gate and drain voltages. *See* Section V, *supra*. Instead, Tomita’s devices include multiple regulators. *See* Section II.B.1, *supra*. In Ground 1, Hynix identifies the “WL/SL C. P. 1” (highlighted in blue) in Figure 4, reproduced below, as the “one regulator.”[6] Petition at 19.

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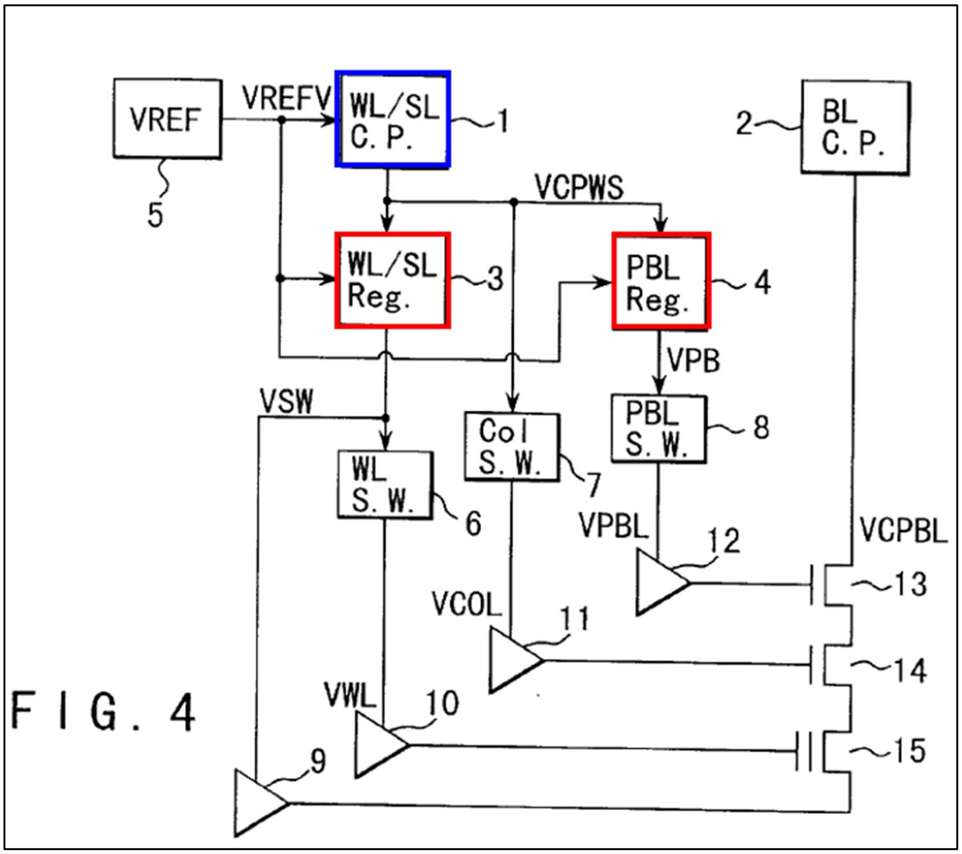
[5] Because each of the Petition’s grounds fail for the reasons set forth below, AMT need not address the other flaws in the Petition’s theories. In the event of institution, AMT reserves the right to argue each of those infirmities.

[6] For the purposes of this Preliminary Response, AMT does not need to discuss whether Hynix’s assertion that the “WL/SL C. P. 1” is a regulator is correct. Whether or not the “WL/SL C. P. 1” is a regulator, Tomita still includes more than one regulator in all of its embodiments. AMT reserves the right to discuss the accuracy of Hynix’s assertion that the “WL/SL C. P. 1” is a regulator in future responses.

However, Hynix fails to mention the fact that there are multiple other regulators (highlighted in red) in every embodiment of Tomita, including the relied-upon embodiment of Figure 4.



EX1005, FIG. 4

Hynix attempts to hide the fact that there are multiple regulators (highlighted in red) in Figure 4 by calling the regulators "step down circuits 3 and 4." Petition at 22. But Tomita refers to these components as "stepdown circuit WL/SL ***Reg.*** 3" and "stepdown circuit PBL ***Reg.*** 4." EX1005 at 7:20–24 (emphasis added). "Reg." is common shorthand for "regulator," and Tomita utilizes similar shorthand for other components in its circuits, such as "C. P." for charge pump and "S. W." for a switch.

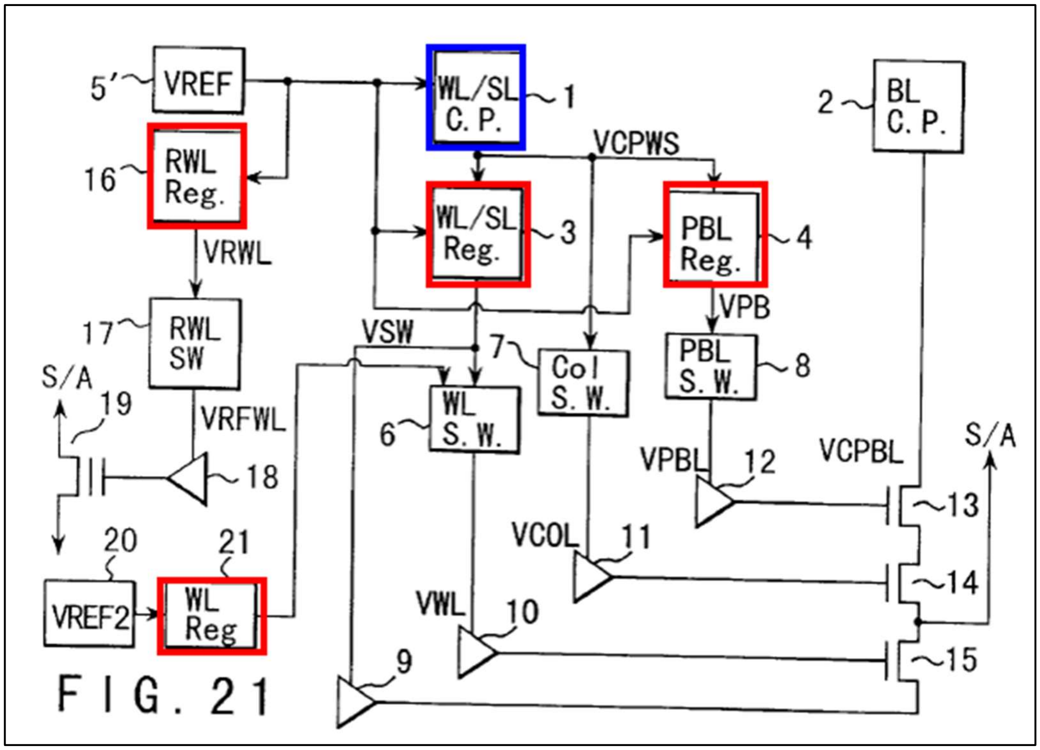
EX1005, FIG. 4.

But the Director need not rely solely on commonly used shorthand. Hynix and its expert both admit that a "step-down" circuit is a type of regulator. *See* Petition at 5; *see also* EX1003 ¶ 49 ("There are different types of regulators. For example, step-down or 'buck' regulators output a reduced DC voltage compared to the input DC voltage."). This confirms that "stepdown circuit WL/SL Reg. 3" and "stepdown circuit PBL Reg. 4" are regulators.

Hynix's expert declaration does nothing to support its claim that Tomita discloses the "one regulator" limitation. Instead, Hynix's expert merely parrots the same language recited in the Petition. *See, e.g.*, EX1003 ¶ 76. Like *Xerox*, Hynix's expert declaration lacks the requisite analysis—parroting should be given no weight. *Xerox*, IPR2022-00624, Paper 9 at 15.

Ground 1 relies on Tomita's device that has more than one regulator, so the Petition fails to show that Tomita discloses the "one regulator" limitation of claim 1. Tomita thus cannot anticipate, and Ground 1 fails with regard to claim 1. It fails as to all of the other challenged claims too because they all depend from and incorporate claim 1.

Grounds 2 and 3 both fail for essentially the same reason as Ground 1. Grounds 2 and 3 rely on Figure 21 of Tomita, reproduced below. Petition at 43, 64. Petitioner identifies "WL/SL C. P. 1" as the alleged "one regulator" without acknowledging the fact that the device depicted in Figure 21 includes four regulators: the "stepdown circuit WL/SL Reg. 3," the "stepdown circuit PBL Reg. 4," the "stepdown circuit RWL Reg. 16," and the "stepdown circuit WL Reg. 21." EX1005 at 7:20–24, 14:53–56, 16:53–59; *see* Petition at 43, 64.



EX1005, FIG. 21

Grounds 2 and 3 utilize secondary references Im and Nam, respectively. Petition at 1. Hynix does not allege either of these references teaches "one regulator," pointing instead to Tomita's "boost circuit WL/SL C.P. 1." *Id.* at 43, 64. Even if Hynix had relied on Im or Nam, those references also do not disclose the "one regulator" limitation; both require multiple regulators. Im utilizes three regulators. *See* EX1010, FIG. 4. And Nam utilizes "a first type voltage regulator 711 and a second type voltage regulator 715 having a plurality of second type voltage regulators

7151, 7152, . . ., 715n.” EX1006 at 6:30–33. Thus, none of the references in Grounds 2–3 disclose utilizing only one regulator.

Accordingly, Grounds 1–3 all fail with regard to all challenged claims.

B. Ground 4 Fails Because Nakayama Does Not Disclose a Second Switch and Cannot Anticipate Any Challenged Claim

Nakayama cannot anticipate any challenged claim because it does not disclose the “second switch” limitation recited by claim 1 and incorporated by every other challenged claim. Indeed, Hynix was forced to resort to modifying the relied upon circuit diagram in Nakayama by filling in a literal gap at the precise point where the “second switch” was missing. Petition at 80–81. Hynix highlighted the missing limitation in its annotations to Nakayama’s Figure 7 (reproduced below).

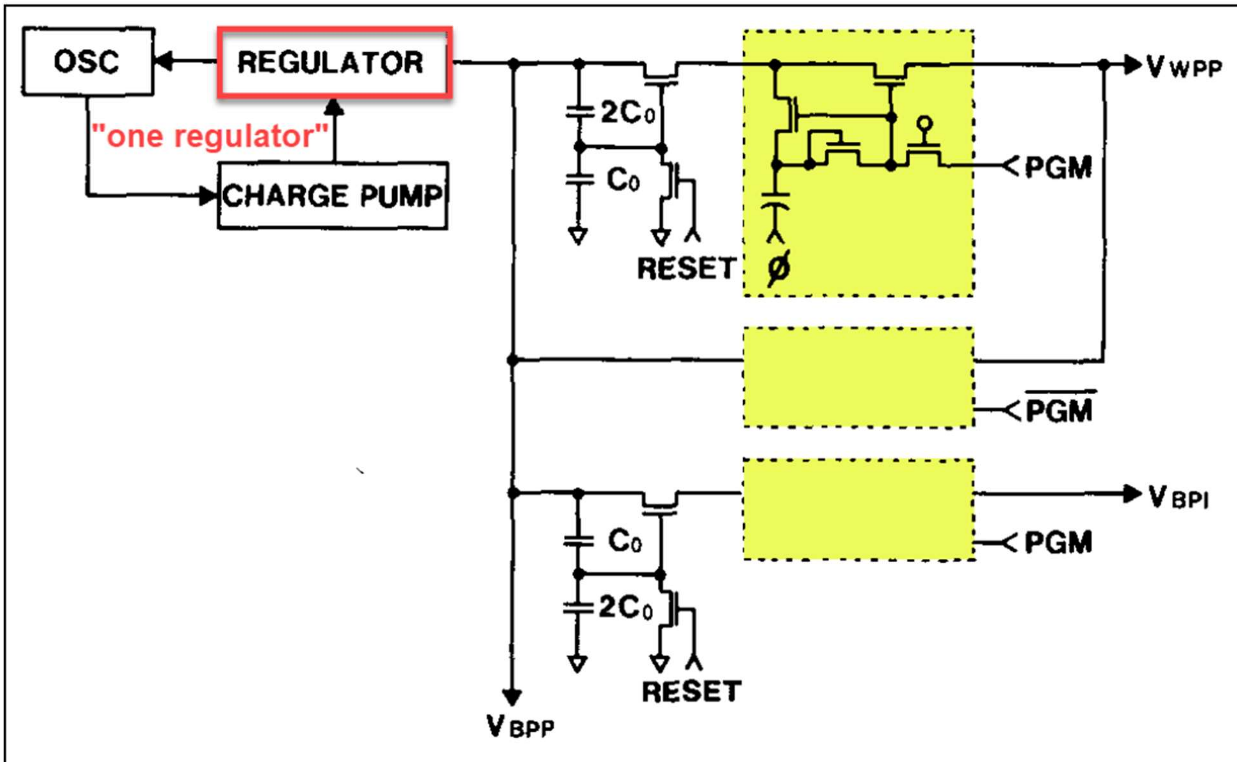


Fig. 7. Block diagram of high-voltage generator.

Petition at 80

Hynix alleged that the top dashed box includes the first switch, but Nakayama does not disclose a second switch in either of the other two dashed boxes. Because Hynix asserts Ground 4 based on anticipation, this lack of disclosure is fatal. Despite this, Hynix resorts to filling in additional circuit components in the second dashed box, despite the absence of any supporting disclosure in Nakayama for that addition. Petition at 80–81. Hynix simply asserts that "[t]he same circuit diagram shown in the first dotted rectangle is repeated in the second and third dotted rectangles."[7] *Id.* at 79.

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[7] Hynix does not argue in its Petition that the third dotted rectangle would satisfy any of claim 1's limitations and should not be permitted to introduce such theories

That assertion is unsupported and incorrect.

First, the Petition does not point to any discussion in Nakayama to support the proposition that the circuitry in the first box is repeated in the second and third boxes. Petition at 80. Instead, the Petition points to a paragraph in Khatri's declaration which repeats the same language contained in the Petition. *Id.*; EX1003 ¶ 174. The Petition could not point to any discussion because Nakayama does not say that the dashed boxes means that the circuitry in the top box is repeated in the second and third boxes. In fact, Nakayama does not discuss the dashed boxes at all.

Second, there is no evidence of any drafting convention that would indicate that the use of dashed boxes means that circuitry is repeated. Indeed, Nakayama's Figure 5 is proof that Nakayama does not utilize dashed boxes to mean that the circuitry is repeated. There are two dashed boxes in Figure 5, the top box is labeled "PRE DECODER," and the bottom box is labeled "ROW DECODER." EX1007, Fig. 5. The circuitry is different in these two boxes, and there are no dashed boxes that are

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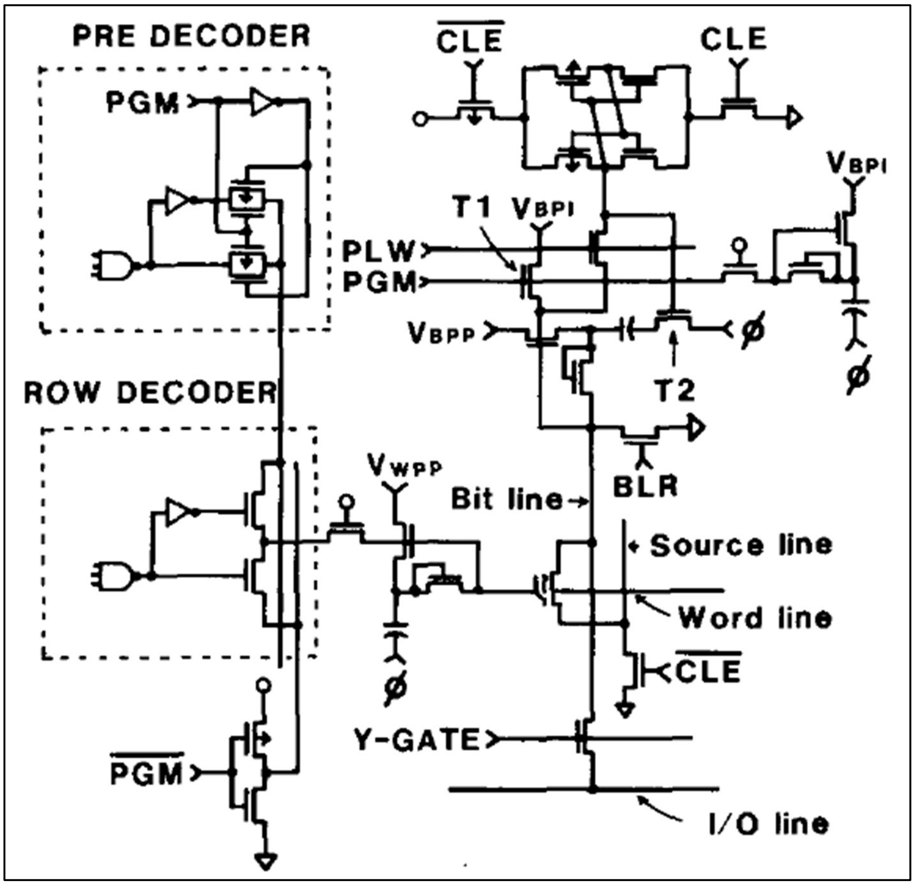
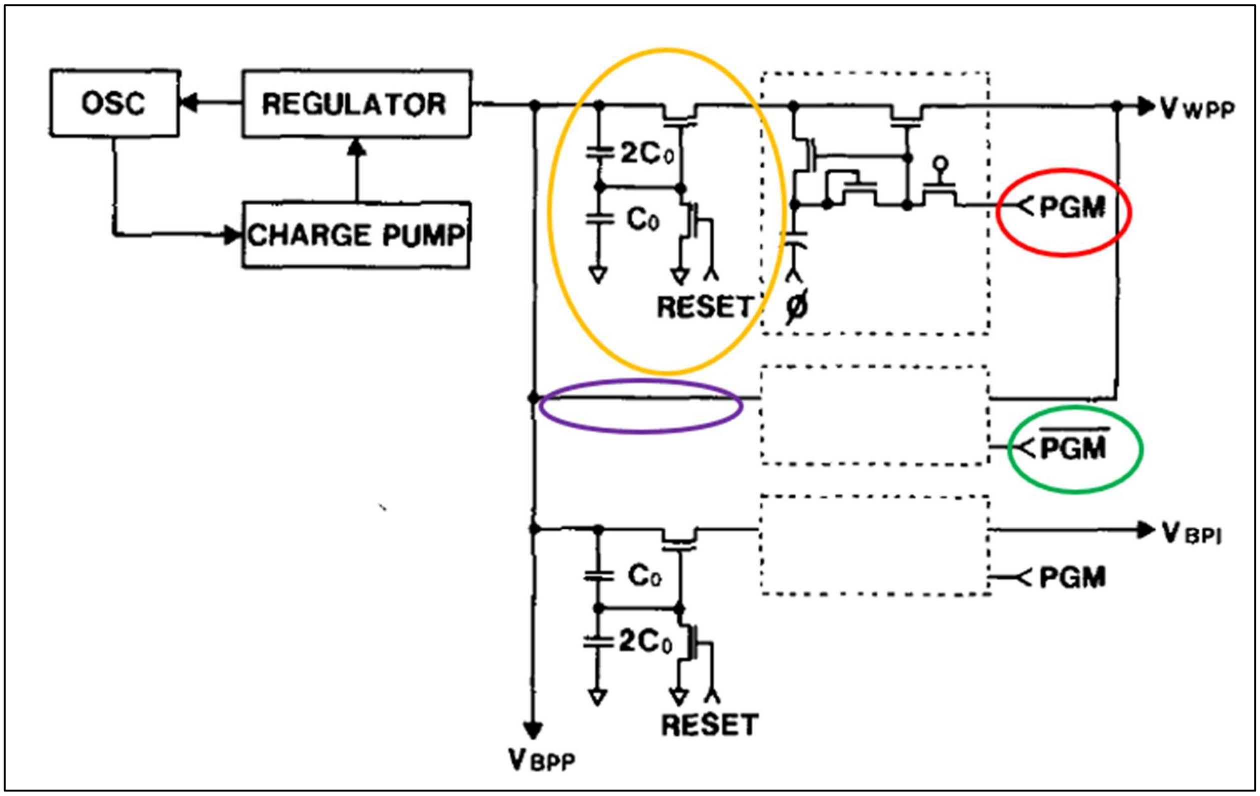
now. *See Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) ("[T]he expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute."). AMT reserves the right to address any arguments relying on Nakayama's third dotted rectangle that Hynix may later be permitted to raise.

empty in Figure 5. *Id.* Thus, Nakayama does not utilize a dashed box to signify that the circuitry inside of it is meant to be copied in another dashed box.



EX1007, Fig. 5

Third, the surrounding context for each of the dashed boxes in Figure 7 is different. Leading into the first box is an input titled "PGM" (red). EX1007, Fig. 7. Leading into the second box is a different input (also red), titled "$\overline{\text{PGM}}$." *Id.* Additionally, RESET circuitry, circled in yellow, is included as another input into the first box. *Id.* However, the empty second box does not have any RESET circuitry (the absence of which is circled in purple) as an input. Hynix does not explain why the same circuitry would be used, even given the different inputs.



EX1007, Fig. 7 (annotated)

Hynix has not even attempted to argue that the second switch is inherently located in Nakayama's circuitry. Such an attempt would fail in any case because the conclusory two sentences in the Petition (and the repetition of these two sentences in Hynix's expert declaration) fall far short of inherency's exacting standard. Hynix's attempt to use the alleged knowledge of a POSITA as a wholesale substitute for reasoned analysis and evidentiary support when dealing with a limitation that is completely missing from the prior art reference should be rejected, particularly when relying on anticipation, as the Petition does for Ground 4. *See* Petition at 1.

Hynix has failed to prove that Nakayama discloses all of claim 1's limitations, which are incorporated into all the other challenged claims. Thus, Ground 4 fails as to all challenged claims.

VII. CONCLUSION

For the foregoing reasons, AMT respectfully requests that the Board decline to institute IPR.

Dated: December 1, 2025

Respectfully submitted,

By: */ Michael F. Heim /*
Michael F. Heim (Reg. No. 32,702)
Attorney for Patent Owner
Advanced Memory Technologies, LLC

CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 TO PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 8,593,888 was served to the following counsel of record for SK Hynix as follows:

Lead Counsel for Petitioner	Back-up Counsel for Petitioner
James M. Glass (Reg. No. 46,729) jimglass@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 295 5TH Avenue, 9th Floor New York, NY 10016 Phone: (212) 849-7000	Brian Saunders (Reg. No. 72,451) briansaunders@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 1300 I St NW #900 Washington, DC 20005 Phone: (202) 538-8000 Kevin (Gyushik) Jang (*pro hac vice to be filed*) kevinjang@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 50 California Street, 22nd Floor San Francisco, California 94111 Phone: (415) 875-6600 John Yin (*pro hac vice to be filed*) johnyin@quinnemanuel.com QUINN EMANUEL URQUHART & SULLIVAN, LLP 865 S. Figueroa St., 10th Floor Los Angeles, CA 90017 Phone: (213) 443-3000

Dated: December 1, 2025

Respectfully submitted,

By: */ Michael F. Heim /*
Michael F. Heim (Reg. No. 32,702)

Attorney for Patent Owner
Advanced Memory Technologies, LLC

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 4,400 words.

Dated: December 1, 2025

Respectfully submitted,

By: */ Michael F. Heim /*
Michael F. Heim (Reg. No. 32,702)
Attorney for Patent Owner
Advanced Memory Technologies, LLC