

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner

v.

NETLIST, INC.,
Patent Owner

Case PGR2025-00071
U.S. Patent No. 12,308,087

**PATENT OWNER PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.207(a)**

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PATENT OWNER'S UPDATED EXHIBIT LIST

Exhibit No.	Description
2001	Joint Development and License Agreement, November 12, 2015
2002	Stock Purchase Warrant, November 18, 2015
2003	Senior Secured Convertible Promissory Note, November 18, 2015
2004	Security Agreement by and between Netlist, Inc. and SVIC No. 28 New Technology Business Investment L.L.P., November 18, 2025
2005	Samsung Venture Investment Corporation website, available at https://www.samsungventure.co.kr/english/jsp/company/company.jsp (last accessed October 12, 2025)
2006	Recorded Assignment and IP Security Agreement, Reel No. 037150, Frame No. 0897, November 20, 2015
2007	Release of Assignment, Reel No. 065629, Frame No. 0330, November 20, 2023
2008	Redacted First Amended Complaint for Breach of Contract and Declaratory Relief, <i>Netlist Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 8:20-cv-00993-JAK (C.D. Cal.), August 31, 2020
2009	Judgment, <i>Netlist Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 8:20-cv-00993-JAK (C.D. Cal.), April 7, 2025
2010	Median time to trial statistics for the International Trade Commission, Docket Navigator report generated October 6, 2025)
2011	Consolidation Order, <i>Netlist Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 2:25-cv-00557 (E.D. Tex.), June 26, 2025
2012	Docket Control Order, <i>Netlist Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 2:25-cv-00557 (E.D. Tex.), July 25, 2025
2013	First Amended Complaint, <i>Netlist Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 2:25-cv-00557 (E.D. Tex.), July 8, 2025

Exhibit No.	Description
2014	Verdict Form, <i>Netlist, Inc. v. Samsung Electronics Co. et al.</i> , Case No. 2:21-cv-00463-JRG (E.D. Tex.), April 21, 2023
2015	Complaint, <i>In the Matter of Certain Dynamic Random Access Memory (DRAM) Devices, Products Containing the Same, and Components Thereof</i> , Investigation No. 337-TA-3854 (I.T.C.), September 29, 2025
2016	Samsung Defendants' P.R. 3-3 Invalidity Contentions, <i>Netlist Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 2:25-cv-00557 (E.D. Tex.), September 24, 2025
2017	Verdict Form, <i>Netlist, Inc. v. Samsung Electronics Co. et al.</i> , Case No. 2:22-cv-00293-JRG (E.D. Tex.), November 22, 2024
2018	List of Patent Trial and Appeal Board proceedings filed by Samsung Electronics Co., Ltd. against Netlist, Inc.'s Patents, Docket Navigator, generated November 3, 2025
2019	Notice of Proposed Rulemaking, 90 Fed. Reg. 48,335 (Oct. 17, 2025)
2020	Excerpts from PTAB 2025 Intelligence Report, Patexia, Inc.
2021	Ramkumar, A., "Trump Takes Aim at Chip Makers With New Plan to Throttle Imports," <i>The Wall Street Journal</i> , September 26, 2025, accessible at https://www.wsj.com/economy/trade/trump-chip-tariffs-exemptions-90fa2ab3 (last accessed September 26, 2025)
2022	Netlist, Inc. Form 8-K, United States Securities and Exchange Commission, November 12, 2015
2023	"Netlist and SK hynix Enter into Strategic Agreements for Patents, Technology and Product Supply," Netlist Press Release, April 5, 2021
2024	Comparison of Claim 1 of U.S. Patent No. 12,308,087 with Claim 1 of U.S. Patent No. 8,787,060 and Claim 1 of U.S. Patent No. 9,318,160
2025	Written Decision on Registration, Korean Patent Application No. 10-2017-0113355, mailed March 24, 2022

Exhibit No.	Description
2026	U.S. Patent No. 10,026,724 to Kim et al., issued July 17, 2018
2027	Opening Brief for Appellant Netlist, Inc., <i>Netlist, Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 24-2240 (Fed. Cir.), February 4, 2025
2028	Joint Appendix Volume II of II, <i>Netlist, Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 24-2240 (Fed. Cir.), May 28, 2025
2029	Morris, A., “IPBC Global 2025: Acting USPTO Director says IPR use needs to change,” <i>IAM</i> , June 10, 2025, accessible at https://www.iam-media.com/article/ipbc-global-2025-acting-uspto-director-says-ipr-use-needs-change (last accessed June 16, 2025)
2030	“Precedential designation of <i>Corning Optical Communications RF, LLC v. PPC Broadband Inc.</i> , IPR2014-00440, Paper 68 (PTAB Aug. 18, 2015) (except for § II.E.1),” United States Patent and Trademark Office Memorandum, October 28, 2025
2031	Public Redated Version of Complaint for Declaratory Judgment of Non-Infringement, <i>Samsung Electronics Co., Ltd. et al. v. Netlist, Inc.</i> , Case No. 1:25-cv-00626-JLH (D. Del.), May 20, 2025
2032	Public Redated Version of Proposed First Amended Complaint for Declaratory Judgment of Non-Infringement, <i>Samsung Electronics Co., Ltd. et al. v. Netlist, Inc.</i> , Case No. 1:25-cv-00626-JLH (D. Del.), July 29, 2025
2033	Defendants Samsung Semiconductor, Inc. and Samsung Electronics America, Inc.’s Motion to Dismiss for Improper Venue, <i>Netlist, Inc. v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:25-cv-00557-JRG (E.D. Tex.), November 24, 2025
2034	Plaintiff’s Corporate Disclosure Statement, <i>Samsung Electronics Co., Ltd. et al. v. Netlist, Inc.</i> , Case No. 1:25-cv-00626-JLH (D. Del.), May 20, 2025

Exhibit No.	Description
2035	List of Patent Trial and Appeal Board proceedings listing Samsung Electronics America, Inc. as Petitioner, Docket Navigator, generated December 3, 2025
2036	Redline Comparison of Independent Claim 1 and Independent Claims 9, 13, 20, 23, and 24 of U.S. Patent No. 12,308,087
2037	Word Counts of Petitions in IPR2025-01402 and PGR2025-00071, including image annotations
2038	Final Judgment, <i>Netlist, Inc. v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:21-cv-00463-JRG (E.D. Tex.), August 11, 2023
2039	Trial Transcript, Volume 3, <i>Netlist, Inc. v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:21-cv-00463-JRG (E.D. Tex.), April 18, 2023

I. INTRODUCTION

The Director should deny institution of post grant review of claims 1-28 of U.S. Patent No. 12,308,087 (“the ’087 patent”) because: (1) the Petition fails to name two real parties in interest (RPIs), (ii) Samsung advances inconsistent claim constructions across proceedings at the Board and in district court, (iii) Samsung has not shown the ’087 patent is PGR eligible because its written description contentions fail, (iv) the Petition further fails to demonstrate a reasonable likelihood of success on the merits of the obviousness grounds, (v) considerations under the Board’s *Chevron/Deeper* precedent favor denial, and (vi) the Petition is procedurally deficient. Each of these reasons independently supports denying institution.

First, despite being clear beneficiaries of Petitioners’ challenges to the validity of the ’087 patent and having preexisting, established relationships with Petitioners, neither Samsung Electronics America, Inc. (“SEA”) nor Avnet, Inc. (“Avnet”) is listed as an RPI to this PGR. Not only are SEA and Avnet both named defendants in both the EDTX and ITC cases in which Netlist has asserted infringement of the ’087 patent, but they also are named *plaintiffs* in Samsung’s declaratory judgment action in Delaware. That Samsung *itself* chose to list SEA and Avnet as co-plaintiffs in this Delaware DJ action forecloses any argument they are not RPIs here. The Board’s precedential decision in *Corning Optical* mandates

that the Petition cannot be considered, and thus the Director should deny institution.

Second, Samsung presents inconsistent claim construction positions in the co-pending IPR, this PGR, and in the EDTX proceeding. In EDTX, Samsung contends most of the claims are indefinite. Here, in the PGR, Samsung includes an indefiniteness ground against only a small subset of the claims (24-28). And in the co-pending IPR, Samsung argues that the Board should apply the plain and ordinary meaning to the claims. Contrary to the Board's precedent in *Revvo* (precedential) and *Tesla* (informative), Samsung provides *no explanation* for its different claim construction positions. Nor could it be given that Samsung had the opportunity to raise indefiniteness theories in its PGR but did not advance the same theories that it did in EDTX. Under these circumstances, *Revvo* mandates denial.

Third, the '087 patent is not PGR-eligible, because the claims satisfy the written description requirement as of the November 3, 2011 priority date. Samsung's contentions that the claims lack support because the specification allegedly does not include the specific claimed combinations of elements are legally and factually flawed. For instance, Samsung presents legal theories that rely on cases in the chemical and biological arts, not in electronics. It also advances an argument that there are "over 100 million different ways" to combine the specification's disclosures, which is divorced from the reality of how a POSITA

would have understood the '087 patent. Instead, as is typical, the specification discloses implementation options that help enable the claims. And Samsung's contentions regarding allegedly unsupported specific elements also fail. The '087 patent provides written description support for all claims and elements.

Fourth, Samsung fails to demonstrate a reasonable likelihood of success on the merits for a number of reasons, each of which independently supports denial. To start, Samsung's contentions for many claim elements are unsupported by expert testimony because Dr. Wolfe's declaration addresses only a subset of the claim elements. Exhibit 1093, which is a lengthy claim chart that Dr. Wolfe references only one time, is not in the form of an affidavit or declaration—i.e., it is unsigned and lacks the required perjury statement—and should not be given any weight. Next, Samsung fails to address known secondary considerations of non-obviousness, including its *own* prior licensing activities related to the '087 patent.

Samsung also fails to show that the Keeth-Shaeffer combination teaches the “unidirectional” interconnects/conduits claim elements that are recited in the independent claims. Samsung alleges a POSITA would have implemented Shaeffer's allegedly unidirectional signaling in Keeth's interconnects, but fails to acknowledge that Keeth plainly depicts its die interconnects as bi-directional or to explain why a POSITA would have made such a modification in contradiction to Keeth's express disclosure. Similarly, Samsung fails to provide any explanation for

its conclusory assertion that a POSITA would have a reasonable expectation of success in making the combination.

Samsung's Petition also takes many shortcuts in addressing independent claims 9, 13, 20, 23, and 24. Instead of providing a fulsome explanation for these claims, Samsung provides charts, including cross-references back to various elements of claim 1 without further explanation. In some instances, the charts reference up to six elements of claim 1, putting it on Netlist and the Board to try to cobble together a coherent theory on Samsung's behalf. This tactic is a springboard that allows petitioners, like Samsung, to impermissibly shift its invalidity theories over the course of an AIA trial. The Director should not permit this gamesmanship and should deny institution.

Fifth, even if the Director finds that the Petition establishes that it is more likely that not that one or even a handful of claims is unpatentable (which it does not), it would not be an efficient use of the Board's valuable time and resources to institute review when resolution of this proceeding would be costly and time-consuming to address challenges that are flawed from the outset.

Finally, Samsung's Petition violates even the most basic of the Board's procedural rules. The asserted grounds are not presented with particularity, often resorting to conclusory statements that are followed by lengthy string citations with little to no explanation on how the cited evidence supports the assertion. Again,

this allows for gamesmanship and shifting theories. And, despite repeated reminders from the Board in numerous other proceedings, Samsung continues its disregard of the Board's rule on word count limits.

Independently, each of these reasons supports denying institution. In combination, they overwhelmingly show that the Board should not institute trial.

II. THE '087 PATENT

A. Summary

The '087 patent discloses and claims an innovative arrangement of stacked dies and interconnects used in Netlist's high-bandwidth memory ("HBM") technology. *See* EX1001, 1:32-35, 2:36-60. Conventional dynamic random access memory ("DRAM") packages often consist of a single silicon chip (or "die") housed in a plastic or ceramic package. To increase the capacity of individual memory devices, memory makers began "stacking" multiple dies in a single DRAM package where each DRAM interfaces with an external device (such as a host) through external connections such as long, dangling wires along the peripheral of the DRAM circuit. *See* EX1001, 1:46-2:24. But the high electrical load resulting from such external connections negatively affected performance. EX1001, 2:25-32.

For example, the '087 patent's background section describes an existing memory package of Figure 1A, which shows memory package 100 with control die

130 and three array dies 110. EX1001, 1:46-60. Control die 130 has driver 134, which drives data signals from control die 130 to each array die via interconnect 142, and driver 140, which drives command and address signals to each array die. EX1001, 1:51-58.

The '087 patent explains that “a load exists on each of the drivers 134, 140 ... by virtue of the drivers being in electrical communication with the corresponding die interconnects and the corresponding circuitry of the array dies.” EX1001, 2:25-28. It further explains that “to drive a signal along a die interconnect, a driver typically must be large enough to overcome the load on the driver” and that “a larger driver not only consumes more space on the control die, but also consumes more power.” EX1001, 2:28-32.

The '087 patent discloses reducing driver size and power consumption “by increasing the number of die interconnects and reducing the number of array dies that are in electrical communication with each die interconnect.” EX1001, 4:2-7. The '087 patent illustrates an exemplary configuration in Figure 2, reproduced below, which shows memory package 200 with control die 230 and four array dies 210a–210d. EX1001, 4:62-63. Control die 230 is connected to array dies 210a and 210b by die interconnect 220a, as shown by the darkened circles. EX1001, 5:7-53. Die interconnect 220b connects control die 230 to array dies 210c and 210d, as shown by the darkened circles, but die interconnect 220b is not electrically

connected to array dies 210a and 210b, as shown by the unfilled circles. EX1001, 5:61-6:8. The '087 patent explains, “Examples of die interconnects include, but are not limited to, through-silicon vias (TSV), conducting rods, wire bonds, and pins.” EX1001, 5:35-37.

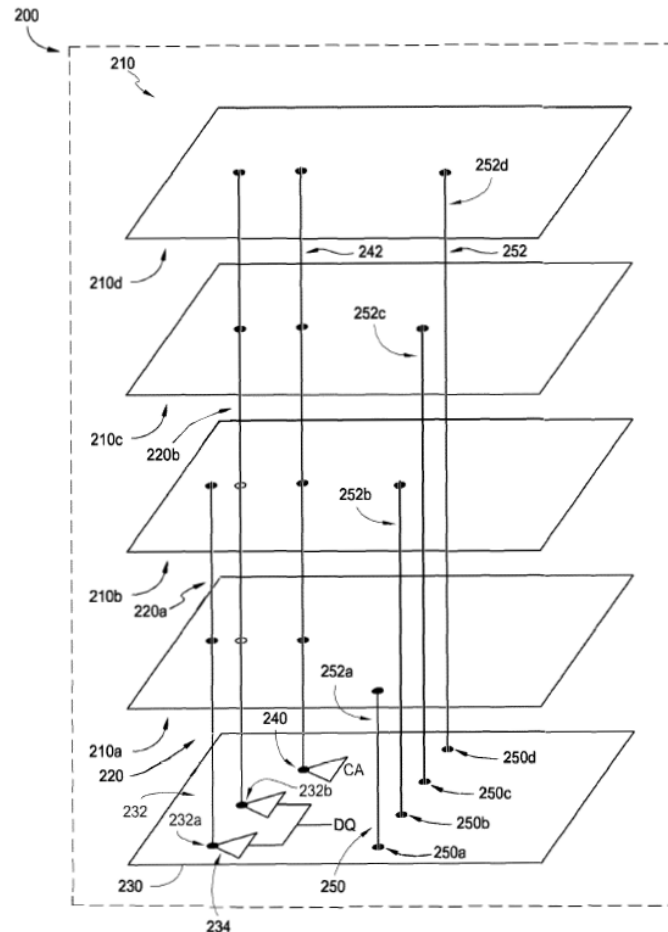


FIG. 2

EX1001, FIG. 2.

B. Level of Skill in the Art

At this stage of the proceeding, solely for the purpose of this preliminary response, Netlist adopts Samsung's proposed level of skill in the art. Netlist

reserves the right to present a different level of skill in the art, if necessary.

C. Claim Construction

None of the arguments below turn on the construction of any specific claim term. The Board thus need not construe any terms to resolve the dispute and deny the Petition. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (the Board “need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”).

Contrary to Samsung’s inconsistent claim construction positions in this PGR and in the co-pending Eastern District of Texas (EDTX) litigation, *see* Section IV, all claims satisfy the definiteness requirement of 35 U.S.C. § 112, ¶2, *see infra* Section V.

III. THE PETITION FAILS TO NAME TWO REAL PARTIES IN INTEREST: SEA AND AVNET.

The Director should deny the Petition because it fails to name two real parties in interest (RPIs): Samsung Electronics America, Inc. (“SEA”) and Avnet, Inc. (“Avnet”). “A petition filed under section 321 may be considered *only if* ... the petition identifies all real parties in interest.” 35 U.S.C. § 322(a)(2) (emphasis added); *see also* 37 C.F.R. §§ 42.8(b)(1), 42.204. A petition that fails to name all RPIs cannot be considered, *Corning Optical Commc’ns RF, LLC v. PPC Broadband, Inc.*, IPR2014-00440, Paper 68 at 23-24 (PTAB Aug. 18. 2015) (precedential except § II.E.1); EX2030, 1, and thus should be denied.

“Determining whether a non-party is a ‘real party in interest’ ... 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) (“*AIT*”). Factors relevant for evaluating whether a party is an unnamed RPI include: (i) the relationship between the petitioner and the unnamed party; (ii) the unnamed party’s “interest in” and “benefit from” the PGR; (iii) whether petitioner can be said to be representing that interest; and (iv) whether the unnamed party desired review of the patent. *See RPX Corp. v. Applications in Internet Time, LLC*, IPR2015-01750, Paper 128 at 10-11 (PTAB Oct. 2, 2020) (precedential) (“*RPX*”) (listing factors).

“AIA proceedings should not be used by foreign adversaries,” like Samsung, “to harass American patentees,” like Netlist. EX2030, 4. Samsung, who has twice been found to willfully infringe Netlist patents, has repeatedly used the PTAB to attempt to avoid paying a fair price for its unauthorized use of Netlist’s patented technology. *See* Netlist Discretionary Denial Brief (“DD Br.”), Paper 8, at 5-6. Here, Samsung again attempts to avail itself of review before the PTAB, but violates its statutory and regulatory obligation to name all RPIs in its Petition; namely, its subsidiary and DJ co-plaintiff SEA and its customer and DJ co-plaintiff Avnet. The Director should apply *Corning* and deny institution.

A. Relevant Litigation History

In May 2025, to prevent ongoing infringement of the '087 patent (and others), Netlist filed suits against Samsung Electronics Co., Ltd (“SEC”); Samsung Electronics America, Inc. (“SEA”), and Samsung Semiconductor, Inc (“SSI”) (25-cv-00557) and Micron (25-cv-00558) in EDTX. Netlist amended its complaint against Samsung in July 2025 to include Samsung’s customer Avnet. EX2013. These cases were consolidated for pretrial purposes. EX2011; EX2013. Trial is set for March 15, 2027. EX2012, 1. In May 2025, the same three Samsung entities (SEC, SEA, and SSI) filed a complaint in the District of Delaware (DDE) for declaratory judgment of non-infringement of the '087 patent and filed a proposed amended complaint in July 2025 adding Avnet as a fourth DJ plaintiff. EX2031; EX2032.

In September 2025, Netlist filed an ITC complaint against the three Samsung entities (SEC, SEA, and SSI) and certain of its customers asserting six patents, including the '087 patent. EX2015. Of the six asserted patents, the PTAB has upheld the validity of three of the patents; Samsung was the petitioner in two of those proceedings. EX2015, 5-6. *Samsung Elecs. Co. v. Netlist, Inc.*, IPR2022-00063, Paper 53 at 58 (PTAB May 3, 2023) (confirming the validity of all claims of the '523 patent), *aff'd*, No. 23-2133, Dkt. No. 44 (Fed. Cir. Mar. 5, 2025); *Samsung Elecs. Co. v. Netlist, Inc.*, IPR2023-00847, Paper 42 at 73 (PTAB Dec.

10, 2024) (confirming the validity of claims 1–5 of the ’608 patent), *appeal docketed*, No. 25-1378, Dkt. No. 1 (Fed. Cir. Jan. 21, 2025).

B. SEA is an unnamed RPI.

SEA is an unnamed RPI: it “is a clear beneficiary that has a preexisting, established relationship with the petitioner[s]” SEC and SSI. *AIT*, 897 F.3d at 1351. Taking those requirements in reverse order, SEA indisputably has a preexisting, established relationship with both SEC and SSI. According to Samsung, “SSI is a wholly-owned subsidiary of SEA, which itself is a wholly-owned subsidiary of SEC.” EX2034, 1. Netlist alleges that SEA and SSI, “collectively with SEC, operate[] the Device Solutions division, which is involved in the design, manufacture, use, offering for sale and/or sales of” products that infringe the ’087 patent. EX2013, 2-3 (¶¶4-5).

SEA would also plainly benefit from review and invalidation of the ’087 patent. SEA is a co-defendant in both the EDTX and ITC cases in which Netlist has asserted infringement of the ’087 patent. EX2014, 2; EX2015, 2. SEA is also a co-plaintiff in the Delaware DJ action, which is particularly telling because (i) Samsung had control over which parties to name and chose to include SEA and (ii) in doing so, Samsung represented to the DDE court that “[a]n immediate, real, and justiciable controversy exists between Samsung [including SEA] and Netlist as to whether Samsung has infringed the ’087 patent.” EX1085, 2-3 (¶¶5, 10). Given

SEA's involvement in the EDTX and ITC cases, SEA would clearly benefit from the expedited review afforded by the PGR process, which applies a more favorable standard of review than district court litigation (preponderance vs. clear and convincing) and could allow Samsung to avoid damages and injunctive relief in other fora. And SEA's *voluntary* involvement in the Delaware DJ action confirms that it has a significant stake in the outcome of this PGR.

The relevant *RPX* factors also show that SEA is an unnamed RPI. As to (i), SEA is a subsidiary of SEC and parent of SSI, and therefore clearly has a relationship with both Samsung entities. As to (ii), SEA's involvement in *three* co-pending litigations demonstrates it has a significant stake and would benefit from a favorable outcome in this PGR. As to (iii) and (iv), SEC (as parent) and SSI (as subsidiary) are plainly representing the interests of SEA—in particular, its interest in avoiding liability for infringement by attempting to invalidate the asserted patent. *See RPX*, IPR2015-01750, Paper 128 at 27.

That Samsung has moved to dismiss SSI and SEA from the EDTX case for alleged improper venue does not change the RPI analysis. *See EX2033*. The issues of whether venue is proper in EDTX and whether SEA is an RPI to this proceeding are different legal and factual analyses. Venue is governed by 28 U.S.C. § 1400(b), which asks “where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business.” RPI, by

contrast, “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.” *AIT*, 897 F.3d at 1351. The RPI analysis is not limited to a specific district court venue, such as EDTX. And thus even if venue is not properly sited for a given defendant, it does not follow that the defendant fails to qualify as an RPI.

SEA is a perfect example. In its motion to dismiss, Samsung raises three arguments: (1) neither SSI nor SEA resides in Texas, (2) SSI has no regular and established place of business in EDTX, and (3) Netlist fails to plausibly allege an act of infringement by SEA in EDTX. EX2033, 6-11. Even if Samsung were to prevail on *all* three arguments, which it should not, SEA is still an RPI to this proceeding. Samsung’s first two arguments are geographically limited to Texas and thus have no bearing on the RPI inquiry. Its third argument is limited to *SEA*’s alleged non-infringement. Even if SEA does not infringe in EDTX,¹ which Netlist does not concede, Samsung’s argument does not extend to SEC and SSI. Because SEA has preexisting, established relationships with both, the RPI inquiry is still at issue in light of the EDTX case against SEC and SSI. And, if there were any doubt,

¹ SEA was found to willfully infringe the ’087 patent’s parent patents (the ’060 and ’160 patents). EX2038.

the Delaware DJ action and the ITC case confirm that SEA is an unnamed RPI.

Finally, Samsung is the leading petitioner in AIA challenges and has named SEA as an RPI on close to 800 petitions. EX2020, 48; EX2035. Samsung knew or should have known the requirement for naming all RPIs and has no excuse for failing to do so here.

C. Avnet is an unnamed RPI.

Avnet is also an unnamed RPI: it “is a clear beneficiary that has a preexisting, established relationship with the petitioner[s]” SEC and SSI. *AIT*, 897 F.3d at 1351. Netlist’s complaint in the related EDTX litigation lists Avnet as a defendant. EX2013, 1. And in the Delaware DJ action—again, where the plaintiffs had control over the parties to name—they chose to file a proposed amended complaint to add Avnet as a plaintiff. EX2032. In that complaint, the plaintiffs (including SEC, SEA, SSI, and Avnet), acknowledge that Avnet is a Samsung customer. EX2032, 2.

Similar to the analysis for SEA, the *RPX* factors demonstrate Avnet is an unnamed RPI. It has an established relationship to Petitioners (customer). It has a clear “interest in” and “benefit from” this PGR (avoiding liability for alleged infringement. Petitioners, as Avnet’s supplier, are representing Avnet’s interest. And Avnet clearly desires review of the ’087 patent, as evidenced by the declaratory judgement action in which Avnet is a named plaintiff. This last fact is

particularly damning: Avnet, as a named plaintiff to the declaratory judgment, certified *collectively* with Samsung that it has an “immediate, real, and justiciable controversy” as to whether it infringes the ’087 patent and made no attempt to establish its own, separate reasons for standing. EX2032, 5. Avnet is thus plainly coordinating with Samsung on its attempt to invalidate the claims. Therefore, Petitioners violated the statute and rules by failing to name Avnet as an RPI.

D. The Director should deny the Petition.

The Petition is defective because it fails to name all RPIs. *Corning*, IPR2014-00440, Paper 68 at 23-25. The correct remedy in this case is to terminate the proceeding.

Board precedent from prior administrations has allowed petitioners to correct petitions that fail to name an RPI without any consequence, such as without altering the filing date. *See Adello Biologics LLC v. Amgen Inc.*, PGR2019-00001, Paper 11 (PTAB Feb. 14, 2019) (precedential) (allowing correction while maintain filing date); *Proppant Express Inv., LLC v. Oren Techs., LLC*, IPR2017-01917, Paper 86 (PTAB Feb. 13, 2019) (precedential) (same). *Corning* says otherwise, listing a host of cases that were terminated for failure to name all RPIs and rejecting the petitioner’s request to correct without altering the filing date. IPR2014-00440, Paper 68 at 23-25. To the extent *Adello* and *Proppant* are inconsistent with *Corning*, they should be de-designated and put to pasture.

Samsung should not be permitted to correct its Petition at this stage. First, no good cause exists. Samsung knew that SEA was co-defendant in the EDTX litigation and a co-plaintiff in the Delaware DJ action in May 2025—long before it filed the Petition at the end of August 2025. It simply chose not to list SEA here, despite the statutory and regulatory obligation to do so. Samsung also did not seek leave to correct its Petition when the Director designated *Corning* precedential, despite filing petitions as recently as November 20, 2025, that list SEA as an RPI. *See* IPR2026-00116, -00117. There is no excuse.

Second, it is bad policy to allow a petitioner to correct its petition, which would circumvent the statute and invite gamesmanship. Congress clearly stated a petition may only be considered if the petition identifies all real parties in interest, which is echoed in the PTAB regulations. 35 U.S.C. § 322(a)(2); 37 C.F.R. 42.204. Allowing a petitioner to correct a petition by adding an unnamed RPI would impart no real consequence for failure to follow these requirements.

Worse yet would be to change the filing date and restart the proceeding, if even possible. This would be grossly unfair to a patent owner, such as Netlist, because it would allow the petitioner to see all of the patent owner's arguments (including discretionary briefing) before the proceeding was restarted. That is, it would permit the petitioner a second bite at the apple and open the door to road mapping based on all the arguments that a patent owner included in its

discretionary denial briefing and preliminary response. Further, it would drive up costs to the patent owner because the patent owner would have to expend resources to defend itself again. Because circumstances that may affect the analysis (particularly on discretionary issues) will have changed based on any new later filing date, simply relying on the already-filed briefing would not be sufficient.

Moreover, in this case, the ITC is already projected to complete its initial determination *months* before the Board's *original* final written decision. DD Br., 13-14. A clock reset would significantly increase this time and clearly be contrary to the purpose of the AIA's objective to provide an effective and efficient alternative to litigation. *Accord NHK Spring Co., Ltd. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential).

In sum, the Director should deny the Petition because it fails to name all RPIs.

IV. SAMSUNG ADVANCES INCONSISTENT CLAIM CONSTRUCTIONS AT THE BOARD AND THE DISTRICT COURT.

The Director should deny institution because Samsung presents different claim construction positions between (i) the IPR and PGR Petitions that it filed to challenge the '087 at the Board and (ii) its Petitions before the Board and its invalidity contentions in the EDTX case. Specifically, Samsung argues in its IPR Petition that the Board should apply the plain and ordinary meaning to the claims, while it argues in its PGR Petition that certain elements of claims 24-28 are

indefinite, and in its EDTX invalidity contentions that *most* of the claims are indefinite. Samsung did not explain why it took inconsistent positions in the different cases.

Nor did Samsung seek leave to explain the inconsistencies after the Director designated *Revvo* precedential and *Tesla* informative about a month ago. *Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, IPR2025-00632, Paper 20 (PTAB Nov. 3, 2025) (precedential); *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00340, Paper 18 (PTAB Nov. 5, 2025) (informative). Both of these decisions are highly relevant. *Tesla*, in particular, presents a similar situation as here, where a petitioner asserted the plain and ordinary meaning of challenged claims in an IPR proceeding after asserting the same claims were indefinite in district court. As in both *Revvo* and *Tesla*, the Petition should be denied.

Rules 204(b)(3) and 204(b)(4) require a petitioner to explain “how the challenged claim is to be construed” and “how the construed claim is unpatentable.” 37 C.F.R. §§ 42.204(b)(3)-(4). “The Board’s claim construction rules are designed to ensure that the Board correctly construes claim terms and to minimize inconsistency in claim construction between forums.” *Revvo*, IPR2025-00632, Paper 20 at 4. A petitioner that advances different claim construction positions in different fora needs to explain why those different positions are warranted. *Id.* at 3-5. That a petitioner “cannot raise indefiniteness challenges in an

inter partes review is not a sufficient explanation” because such a statement amounts to an assertion that a petitioner should be permitted to raise inconsistent invalidity challenges. *Tesla*, IPR2025-00340, Paper 18 at 3-4.

Samsung advances different claim construction positions in its IPR and PGR petitions. In its IPR Petition, Samsung argues the Board should apply the “ordinary and customary meaning” of the claims of the ’087 patent. IPR2025-01402 Pet., 10. But here in its PGR Petition, Samsung asserts that certain signals recited in independent claim 24 render claims 24-28 indefinite. Pet., 4, 28-31.

In EDTX, Samsung’s claim construction positions are even further afield. There, Samsung contends most of the claims of the ’087 patent are indefinite. EX2016, 290-294. Specifically, Samsung asserts the following claim terms listed in the tables below are indefinite in whole, in part, or in combination.

Term	Claim(s)
wherein the one or more C/A signals do not include any chip select signal ... wherein the control die does not include emulation logic that performs emulation causing two or more DRAM dies of the stacked DRAM dies to emulate a single DRAM die having a larger capacity than each of the two or more DRAM dies	6, 20-23
logic configur[ed/able] to ...	1-8, 17-18, 20-28
“the control die is configurable to drive the one or more second signals to the second DRAM die ene or more DRAM dies of the plurality of stacked DRAM dies-via the one or more of the second unidirectional interconnects and is not configurable to receive any signal from any of the plurality of stacked DRAM dies via any of the second unidirectional interconnects;”	13-19

EX2016, 291.

Term	Claim(s)
wherein the power supply interconnects include a first supply voltage interconnect and a second supply voltage interconnect, wherein the first supply voltage interconnect is configured to conduct a supply voltage received at a power supply terminal to each of the first plurality of DRAM dies and not to any of the second plurality of DRAM dies, and wherein the second supply voltage interconnect is configured to conduct the supply voltage received at the power supply terminal to each of the second plurality of DRAM dies and not to any of the first plurality of DRAM dies	23
[first/second/third/fourth] C/A signals include one or more signals selecting a DRAM die in the first/second subset of DRAM dies ... wherein the one or more C/A signals do not include any chip select signals	24-28
in response to the third set of C/A signals ... a second subset of the second conduits is configured to receive fifth signals associated with the second set of C/A signals via a second subset of the second die interconnects and to drive the fifth signals to the interface	24-28
in response to the third set of C/A signals, ... a second subset of the third conduits is configured to receive one or more sixth signals associated with the second set of C/A signals from a second subset of the third die interconnect and drive the one or more sixth signals to the interface	24-28
in response to the fourth set of C/A signals, ... a second subset of the fourth conduits is configured to receive one or more eighth signals associated with the second set of C/A signals from the interface and to drive the one or more eighth signals to a second subset of the fourth die interconnect	24-28

EX2016, 292.

Samsung asserts in EDTX that a POSITA “would not be able to ascertain the scope and meaning” of some of these terms because the limitations recite conflicting requirements. EX2016, 293-294. Yet, Samsung apparently has had no trouble understanding the scope of these claims for purposes of mapping them to the prior art in this proceeding. Samsung makes no attempt to reconcile the differences in its claim construction positions or otherwise explain its

inconsistencies, contrary to holdings in *Revvo* and *Tesla*. Indeed, its constructions are irreconcilable.

The inconsistency between Samsung's PGR grounds and EDTX invalidity contentions is particularly notable because a petitioner is permitted to raise indefiniteness arguments in a PGR (as Samsung has done with respect to claims 24-28). Not only did Samsung choose to omit the vast majority of its district court indefiniteness contentions before the Board, Samsung presents an additional indefiniteness theory with respect to claims 24-28 in EDTX that it did not present to the Board. EX2016, 291 (asserting the "logic" element recited in claims 24-28 is indefinite). These inconsistencies underscore that Samsung's positions across the proceedings are irreconcilable.

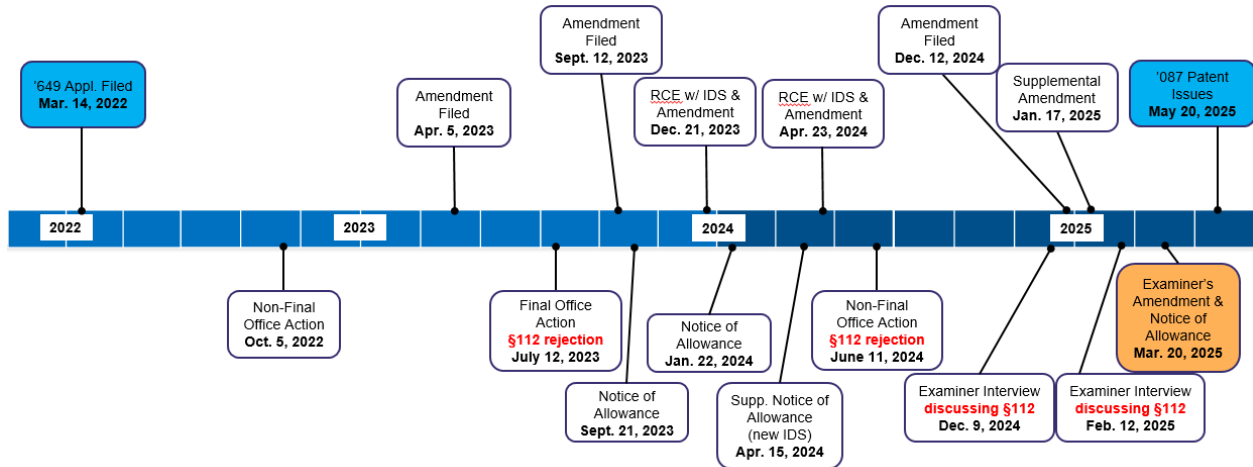
Moreover, Samsung's attempt to argue different claim constructions undermines the integrity of the patent system. "Allowing a petitioner to advance a claim construction before the Board when that petitioner has made inconsistent indefiniteness arguments in district court fails to further, but instead detracts from, the Office's goal of 'providing greater predictability and certainty in the patent system.'" *Tesla*, IPR2025-00340, Paper 18 at 4 (citations omitted). The impact on the Board when a petitioner takes inconsistent positions cannot be understated. As one panel recently asked, "[i]f, according to Petitioner many limitations in [the claims] are indefinite then how does Petitioner propose that the Board construe

such limitations to assess Petitioner’s invalidity challenges?” *Am. Airlines, Inc. v. Intellectual Ventures I LLC*, IPR2025-01055, Paper 11 at 13 (PTAB Nov. 21, 2025). To that question, Samsung provides only silence in its Petition, rather than fulfilling its obligation to clearly explain how the challenged claims are to be construed. *See* 37 C.F.R. § 42.204(b)(3). And Samsung should not have left it to Netlist to inform the Board of Samsung’s different claim constructions. *Accord Am. Airlines*, IPR2025-01055, Paper 11 at 13 (citing 37 C.F.R. § 42.11).

In sum, the Director should deny the Petition because Samsung advances inconsistent claim constructions in its IPR, PGR, and district court contentions.

V. THE ’087 PATENT IS NOT PGR-ELIGIBLE BECAUSE THE CLAIMS SATISFY THE WRITTEN DESCRIPTION REQUIREMENT.

Samsung contends that the ’087 patent is PGR-eligible because the claims allegedly lack written description support in the pre-AIA priority application. Pet., 4 (relying only on contentions in Ground 1 as support for PGR eligibility). But, during prosecution of the ’087 patent, the examiner thoroughly vetted the claims for written description support, issuing multiple §112 rejections and conducting interviews with Netlist to discuss this issue, as shown in the timeline below.



As shown above, the examiner rejected the claims as lacking written description support for a first time on July 12, 2023², and for a second time on June 11, 2024. EX1002, 201-206, 425-429. The second §112 rejection was discussed in a December 9, 2024 interview. EX1002, 738. Netlist then submitted amended claims³ along with remarks fully explaining their §112 support. EX1002, 746-776.

² Samsung does not allege (and Netlist does not concede) that any intermediate version of the claims lacked written description support. Indeed, this first §112 rejection was overcome without amendment. *See* EX1002, 207-217 (Sept. 12, 2023 Response), 254-263 (Sept. 21, 2023 Notice of Allowance).

³ Applicant did not concede the prior version of the claims lacked written description support in amending the claims. *See* EX1002, 769 (discussing support for the claim language, but noting, “[n]onetheless, the above limitations have been replaced ... by other limitations”).

After a second examiner interview to again discuss §112 support, and claim amendments *entered via an Examiner's Amendment*, the claims were allowed. EX1002, 800, 803, 826-863. The examiner's extensive consideration of written description support during prosecution is evident. Indeed, certain limitations Samsung identifies as allegedly lacking support are limitations for which §112 issues were explicitly considered by the examiner.

Samsung's contentions that the claims lack written description support fail. Simply because the claims are long and detailed does *not* mean they lack support. In general, Samsung's arguments take an overly restrictive view of both the written description requirement and the claim language, ignoring that a "patent specification is directed to one of ordinary skill in the art," *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 866 (Fed. Cir. 1993), and that written description support is analyzed from the perspective of that POSITA, *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (emphasis added).

First, Samsung relies on the same analysis both for PGR eligibility and written description, without acknowledging that different dates should be used to assess the level of skill in the art. *Second*, Samsung's general contentions regarding the lack of disclosure of the specifically claimed embodiments are legally and factually flawed. *Third*, Samsung's contentions regarding the alleged insufficient disclosure of specific limitations also have no merit. *Finally*, claim 24 contains a

clear drafting error that should be corrected via claim construction.

Because Samsung has not shown any of the claims lack written description support, Samsung also has not shown the claims are eligible for PGR.

A. Samsung’s analysis is flawed because it does not acknowledge the different dates for assessing written description.

Samsung relies on its analysis in Ground 1 for its contention that the patent is PGR-eligible. *See* Pet., 4. Samsung does not acknowledge or address, however, that the analyses for these two inquiries are not necessarily assessed as of the same date. *See Reiffin v. Microsoft*, 214 F.3d 1342, 1346 (Fed. Cir. 2000) (“the sufficiency [of a disclosure] under § 112, first paragraph must be judged as of its filing date.”). For determining whether the ’087 patent is entitled to the pre-AIA priority date, and thus, whether the application is PGR-eligible, the written description analysis must be performed in view of the state of the art and the knowledge of a POSITA as of November 3, 2011 (the filing date of the only pre-AIA application). But if the ’087 patent claims are not entitled to this earlier filing date (which Netlist does not concede), and the ’087 patent is thus PGR-eligible, these claims could still find written description support as of a later date, such as the March 14, 2022 filing date of the ’087 patent. Samsung does not acknowledge this distinction or present any evidence or testimony as to the state of the art or the level of skill as of March 14, 2022. It is Samsung’s burden to do so. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (A “petitioner has the

burden from the onset to show with particularity why the patent it challenges is unpatentable.”).

B. Samsung’s general contentions regarding the lack of disclosure of the specifically claimed embodiments are legally and factually flawed.

1. Contrary to Samsung’s contentions, there is no requirement to describe every possible combination or embodiment to provide written description.

Samsung contends the claims do not meet the written description requirement because “there is no disclosure of the *specific combination* of *all* the limitations required by each independent claim.” Pet., 14. But this is not required under the law. Rather, “the test for sufficiency [of written description] is whether the disclosure of the [earlier] application relied upon *reasonably conveys to those skilled in the art* that the inventor had possession of the claimed subject matter” as of that earlier filing date. *Ariad Pharms.*, 598 F.3d at 1351 (emphasis added). The “level of detail required to satisfy the written description requirement *varies* depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology.” *Id.* (emphasis added); *see also Capon v. Eshhar*, 418 F.3d 1349, 1357-58 (Fed. Cir. 2005) (“The ‘written description’ requirement must be applied in the context of the particular invention and the state of the knowledge As each field evolves, the balance also evolves between what is known and what is added by each inventive contribution.”); *Union Oil Co. of*

Cal. v. Atl. Richfield Co., 208 F.3d 989, 997 (Fed. Cir. 2000) (“The written description requirement does not require the applicant ‘to describe exactly the subject matter claimed, [instead] the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed.’” (internal citations omitted)).

2. The '087 patent explicitly links the various disclosed embodiments.

According to Samsung, “[a] patent owner cannot show written description support by picking and choosing claim elements from different embodiments that are never linked together in the specification.” Pet., 13 (quoting *Flash-Control, LLC v. Intel Corp.*, No. 20-2141, 2021 WL 2944592, at *4 (Fed. Cir. July 14, 2021) (nonprecedential)). Unlike *Flash-Control*, however, the '087 patent explicitly recognizes that various combinations of the disclosed features may be implemented by a POSITA. In particular, the specification states:

The above detailed description of embodiments of the invention is not intended to be exhaustive or to limit the invention to the precise form disclosed above. While specific embodiments of, and examples for, the invention are described above for illustrative purposes, *various equivalent modifications are possible* within the scope of the invention, *as those skilled in the relevant art will recognize*.

EX1001, 22:63-23:2 (emphasis added).

The specification also notes:

The teachings of the invention provided herein can be applied to other systems, not necessarily the system described above. *The elements and acts of the various embodiments described above can be combined to provide further embodiments.*

EX1001, 23:13-17 (emphasis added).

While certain embodiments of the inventions have been described, these embodiments have been presented by way of example only, and are not intended to limit the scope of the disclosure. Indeed, the novel methods and systems described herein may be embodied in a variety of other forms

EX1001, 23:31-36.

Thus, contrary to Samsung's implication otherwise, the '087 patent explicitly links the various disclosed embodiments.

3. Samsung's "laundry list" case law is inapposite because it focuses on the unpredictable chemical and biological arts.

Citing *Fujikawa*, Samsung contends that "[a] patent that provides 'a "laundry list" disclosure' does not provide adequate written description of every possible combination because 'such a disclosure would not "reasonably lead" those skilled in the art to any particular species.'" Pet., 12-13. In all of Samsung's cited cases, however, the claims are directed to the unpredictable chemical and biological arts where the disclosures at issue included, for example, large numbers

of possible combinations of various chemical components.

For example, in *Fujikawa*, the disclosed compound included four independently substitutable R-groups, two of which could be substituted for a ring including three additional independently substitutable R-groups. *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570 (Fed. Cir. 1996). The claim at issue was directed to non-preferred compounds from the disclosure, and the description “contained no blazemarks as to what compounds, other than those disclosed as preferred, might be of special interest.” *Id.* at 1571.

Similarly, in *Regents*, the relevant disclosure included “a compendium of common organic chemical functional groups, yielding a laundry list disclosure of different moieties for every possible side chain or functional group” where “the listings of possibilities are so long, and so interwoven, that it is quite unclear how many compounds actually fall within the described genera and subgenera.” *Regents of the Univ. of Minn. v. Gilead Scis., Inc.*, 61 F.4th 1350, 1357 (Fed. Cir. 2023).

Likewise, in *Purdue Pharma*, the disclosure did not provide any indication to a POSITA regarding which of a multitude of pharmacokinetic parameters were important to the invention, thus there was not sufficient disclosure of the claimed parameter ratio, even though some examples happened to fall within the claimed ratio. *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1326 (Fed. Cir. 2000).

And in *Novozymes*, the claim at issue was directed to a particular alpha-amylase variant having particular thermostability properties, the combination of which was nowhere described in the disclosure. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1348-49 (Fed. Cir. 2013). In each of these cases, the technology was in the unpredictable arts and there was no guidance in the specification to arrive at the particular claimed species or sub-genus.

Here, on the other hand, the claims are directed to a DRAM memory package—in the field of electronics. Although the Specification describes a few variations of certain aspects of a memory package (e.g., using either bi-directional or unidirectional interconnects for different signals, EX1001, 14:40-51, as discussed below), the disclosure also explicitly identifies that these “can be combined to provide further embodiments” and that “various equivalent modifications are possible within the scope of the invention, as those skilled in the relevant art will recognize.” EX1001, 22:65-23:2, 23:15-17. The disclosure here “reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter.” *Ariad Pharms.*, 598 F.3d at 1351.

4. Samsung’s argument that there are over 100 million possible combinations of features is divorced from the reality of how a POSITA would consider the disclosure.

Samsung contends that “the ’087 Patent refers to various possibilities that could be combined in over *100 million* different ways.” Pet., 19; *also id.* at 23

(calculating “100,776,960 possible combinations of features”). But this calculation is based on a manufactured list of examples of these “various possibilities,” from disclosure of examples, the particular selection of many of which a POSITA would have viewed as routine design choices. Indeed, it is common practice for patent disclosures to include example implementations and alternatives in order to guide POSITAs and to enable the claimed invention.

For example, row “A” of Samsung’s chart alleges there are “at least 6 possibilities” for “Types of array dies” while only “DRAM dies” is claimed. Pet., 20. But the specification’s inclusion of these well-known types of memory—DDR DRAM, SDRAM, flash, SRAM, GDDR SDRAM, or other graphics memory—as examples of appropriate array dies does not suddenly create some sort of large genus from which a POSITA would not be able to determine the scope of the inventor’s disclosure. Rather, a POSITA would have simply recognized that certain aspects of the disclosed invention (e.g., die stacking and die interconnect configuration) were applicable to any of these types of memory. Nonetheless, the ’087 patent is clear that memory packages with DRAM dies are preferred. *See, e.g.,* EX1001, 19:4-22:43. Similarly, row “B” of Samsung’s chart alleges that there are “at least 5 possibilities” for “Types of interconnects” while only “TSVs” is claimed. Pet., 20. Again, although the disclosure simply provides several examples of interconnects—wire, conducting rod, conducting trace, vias, or TSVs, only TSV

interconnects are described in length and illustrated in all of the drawings showing the die interconnects. *See, e.g.*, EX1001, 5:32-35, 6:3-8, 8:15-51, FIGs. 2-3.

Even removing just these two “features” from Samsung’s calculation reduces the number of “possibilities” down to just over 3%⁴ of the Petition’s alleged “over 100 million” possible combinations.⁵ Samsung’s calculation is a transparent attempt to generate a large genus from which the alleged “extraordinarily specific combination of features” is selected. But the majority of these so-called “possibilities” are basic design choices and implementation options. And it is well within the skill of a POSITA to select appropriate combinations, including those recited in the ’087 claims, *based on the options disclosed in the specification* and the desired results.

C. Samsung’s contentions regarding specific limitations also fail.

Samsung also contends there is no written description support for specific limitations. Pet., 23-36. These arguments likewise fail. In general, they take an impermissibly narrow view of the disclosure that is divorced from how a skilled

⁴ $2 \times 64 \times 6,561 \times 2 \times 2 = 3,359,232$.

⁵ Patent Owner does not concede that the other characterizations of features in Petitioner’s chart are accurate or a fair characterization. But it is sufficient to look at only the first two rows to make the point here.

artisan would have understood the '087 patent's teachings. According to Samsung, the skilled artisan was an accomplished engineer who had experience with DRAM memory technologies and was familiar with essentially anything relevant to the '087 patent. *See* Pet., 10-11.

As explained below, there is sufficient written description support for the limitations identified by Samsung. Indeed, written description support for certain identified limitations was expressly considered by the examiner during prosecution and found to be sufficient. Netlist focuses on claim 1 for purposes of the discussion herein. But a similar analysis would apply to the other identified claims. Indeed, Samsung addresses the claims together in the written description analysis and does not identify any differences between the various claims that would affect the analysis.

1. The disclosure supports “unidirectional interconnects/conduits for conducting signals down the stack.”⁶

Claim element [1.1] recites:

wherein the die interconnects further include first unidirectional interconnects configured to conduct signals from one or more DRAM

⁶ The quoted text in the headings in subsections V.C.1-V.C.5 are Samsung's characterizations of the claim elements, not the actual claim language. Netlist does not concede that Samsung's characterizations are accurate.

dies of the stacked DRAM dies to the control die and not configured to conduct any signal from the control die to any of the stacked DRAM dies;

EX1001, 24:62-67. According to Samsung, the “claimed unidirectional interconnect/conduit for conducting signals only *down* the stack is not disclosed in the specification.” Pet., 24. This is not correct.

First, contrary to Samsung’s contentions, Pet., 24-25, the Specification is not silent on the alleged negative claim limitation, i.e., that the interconnect is “not configured to conduct any signal from the control die to any of the stacked DRAM dies.” For example, Samsung acknowledges the Specification teaches that data interconnects are either “bi-directional” (i.e., data flows in both directions) or are “separate die interconnects ... to transfer data to the array dies 210 and data from the array dies 210 to the control die 230” (i.e., data flows in a single direction on each interconnect). Pet., 24 (quoting 9:7-17). Thus, the Specification teaches unidirectional interconnects.

The Specification provides further examples of bi-directional and non-bi-directional (or unidirectional) interconnects. Discussing Figure 3, the Specification describes transmitting “a signal” bi-directionally. EX1001, 14:33-40. The discussion is not limited to a data signal here. The discussion continues, describing that, in the alternative, interconnects that are not bi-directional (i.e., unidirectional interconnects) may be used:

Alternatively, the memory package 300 comprises one or more die interconnects 320 that are configured to **enable a signal to be driven to the array dies 310 without enabling a signal to be received from the array dies 310** (e.g., the die interconnects 320 may **not be bi-directional**). *In certain embodiments where one or more of the die interconnects 320 are not bi-directional, the memory package 300 may include additional die interconnects (not shown) that are in electrical communication with the one or more additional conduits or drivers and that are configured to enable a signal from the array dies 310 to be transmitted to the one or more additional conduits or drivers.*

EX1001, 14:40-51 (emphasis added). The first half of this quoted language describes claim element [1.m], i.e., unidirectional interconnects for conducting signals to the DRAM dies. Here, the disclosure characterizes interconnects that are “not [] bi-directional” as (1) “enabl[ing] a signal to be driven to the array dies 310” (i.e., configured to conduct signals in one direction), (2) “without enabling a signal to be received from the array dies 310” (i.e., not configured to conduct any signal in the other direction). The second half of the quoted language (in italics) describes complementary claim element [1.l], at issue here, and uses parallel language to describe that these interconnects, likewise, “are not bi-directional.” This language, thus, teaches that these interconnects (1) enable signals to be transmitted from the DRAM dies downwards toward the additional conduits or drivers in the bottom logic die but (2) do not enable signals to be driven to the DRAM dies.

Second, these teachings are not limited to interconnects that transfer *data*, as Samsung contends. Pet., 25-26. The Specification explicitly confirms that the “signals,” including those in the quotation above, are not limited to data signals:

In some embodiments, the signal can be a data signal, a command or address signal, a chip select signal, a supply voltage signal, or a ground voltage signal, **to name a few**. Further, **as the signal is not limited to a data signal**, in some embodiments, the conduits 332 may include conduits configured to provide signals other than data signals to the die interconnects 320.

EX1001, 10:48-54 (emphasis added). A POSITA would have been well aware of the various types of signals that would be transmitted over interconnects in a memory package, and the review for sufficient written description is conducted from the standpoint of a POSITA. *Wang Labs.*, 993 F.2d at 866 (“A patent specification is directed to one of ordinary skill in the art.”).

Accordingly, there is written description support for claim element [1.1].

2. The disclosure supports “unidirectional first/second/fourth/sixth/eighth etc. signals.”

Claim elements [1.p.1] recites:

wherein the control die is configured to, in response to the first set of C/A signals, receive first signals associated with the memory read operation from a DRAM die of the stacked DRAM dies via the first unidirectional interconnects, and

EX1001, 25:20-24. And claim element [1.p.2] recites:

in response to the second set of C/A signals, drive second signals associated with the memory write operation to one or more DRAM dies of the stacked DRAM dies via the second unidirectional interconnects.

EX1001, 25:24-28. According to Samsung, the “specification also fails to disclose ‘[first]/[second] signals,’ ... which are transferred via unidirectional interconnects/conduits (collectively the ‘Unidirectional Signals’).” Pet., 26.

In [1.p.1] and [1.p.2], the “first signals” are “receive[d] ... via the first unidirectional interconnects” of claim element [1.l] and the “second signals” are “drive[n] ... via the second unidirectional interconnects” of claim element [1.m]. The support for the first and second signals is the same as that discussed for element [1.l] (and [1.m]) above. *See* Section V.C.1.

Samsung’s argument regarding the alleged “laundry list” of signals being insufficient, Pet., 27, fails for the reasons discussed in Section V.B above.

3. The disclosure supports “multiple types of interconnects with selective electrical communication.”

Claim element [1.f] recites:

wherein a first C/A interconnect of the first C/A interconnects is in electrical communication with corresponding C/A ports on the first plurality of DRAM dies and not in electrical communication with any C/A port on any of the second plurality of DRAM dies;

EX1001, 24:20-24. And claim element [1.h.1] recites:

wherein a first data interconnect of the first data interconnects is in electrical communication with corresponding data ports on the first plurality of DRAM dies and not in electrical communication with any data port on any of the second plurality of DRAM dies,

EX1001, 24:30-34. Claim elements [1.g] and [1.i] respectively recite similar limitations but for “a second C/A interconnect” and “a second data interconnect” in electrical communication with “the second plurality of DRAM dies” and not with “the first plurality of DRAM dies.” EX1001, 24:25-29, 24:46-50.

In the embodiment of Figure 3 (annotated below), the claimed “first plurality of DRAM dies” correspond to array dies 310a/b (shown in orange) and the claimed “second plurality of DRAM dies” correspond to array dies 310c/d (shown in blue). As seen, die interconnect 320a (orange) is in electrical communication with only array dies 310a/b; die interconnect 320b (blue) is in electrical communication with only array dies 310c/d. EX1001, 10:10-47.

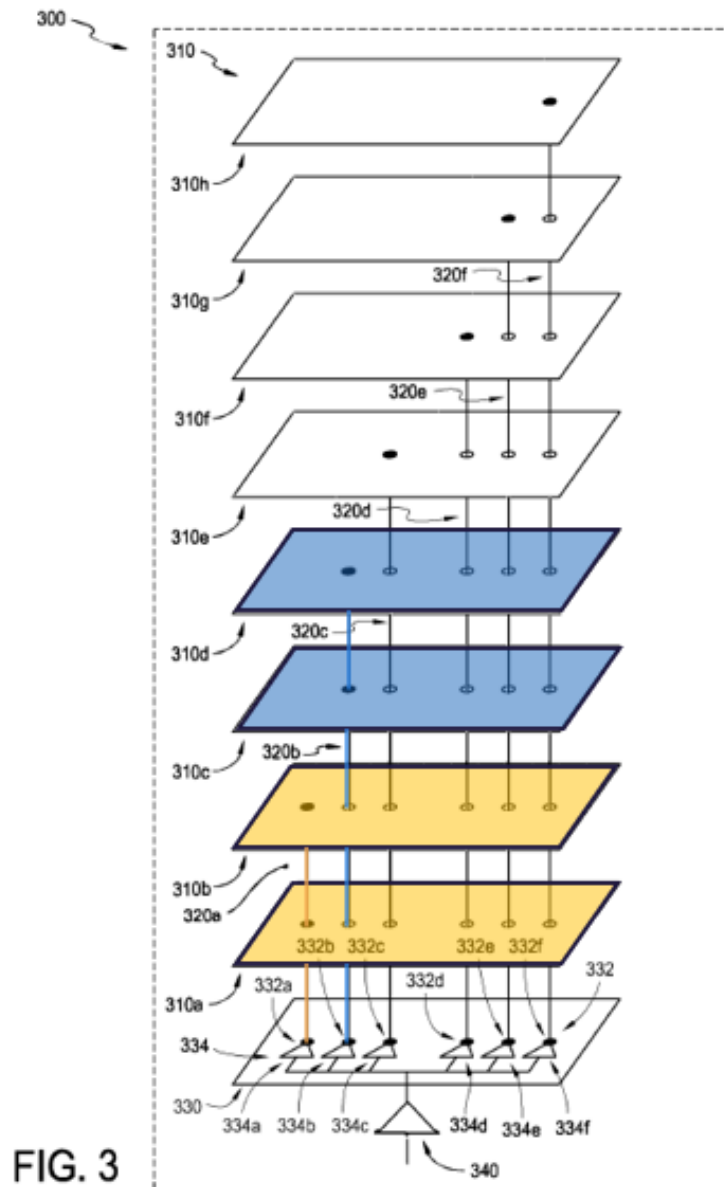


FIG. 3

EX1001, FIG. 3 (annotated)

Samsung contends the specification “fails to disclose the combination of at least two different types of interconnects ... where each type of interconnect is in selective electrical communication with DRAM dies (or ports on those dies).” Pet., 31-32. In other words, Samsung faults Figure 3 as not including, for example, two

interconnects 320a (to show the claimed “first C/A interconnect” and “first data interconnect”) and two interconnects 320b (to show the claimed “second C/A interconnect” and “second data interconnect”). This argument fails because it takes an impermissibly narrow view of the disclosure.

Figure 3 is “for ease of illustration and to simplify discussion,” and the specification states that “certain elements are omitted in FIG. 3.” EX1001, 10:3-5. The figure illustrates generally how interconnects (for accessing a single port per DRAM die) are connected to the stacked dies. Figure 3 is not intended to illustrate how many different types of interconnects are included in the memory package.

Indeed, contrary to Samsung’s contention, the specification makes it clear that the signal (conducted by the die interconnects shown in Figure 3) “can be a data signal, a command or address signal, a chip select signal, a supply voltage signal, or a ground voltage signal, to name a few.” EX1001, 10:48-50. Because more than one type of these signals are used to operate the DRAM dies, the specification makes clear that different types of die interconnects are included in the memory package and that each type of die interconnects can be configured as shown in Figure 3. From this disclosure, a POSITA would have immediately recognized that Figure 3 illustrates a single port and interconnect per DRAM die only for simplicity. *See* EX1001, 10:3-5. Indeed, the disclosure specifically recognizes “[e]ach of the array dies 310 may *include one or more ports* (not

shown) that enable electrical communication between the circuitry of the array dies 310 and *one or more die interconnects 320.* EX1001, 10:14-17 (emphasis added). And, as discussed above, the signal can be any number of signal types, including “*a data signal*” or “*a command or address signal*” as relevant here. EX1001, 10:48-50 (emphasis added).

Again, Samsung’s argument regarding the alleged “laundry list” of interconnects for different signals being insufficient, Pet., 27, fails for the reasons discussed in Section V.B above.

Samsung further contends:

there is no disclosure of the unusual requirement in claims 1 and 9 that there are “first” and “second” “C/A interconnects” in selective electrical communication with ports of the DRAM dies, but both the “first set of C/A signals” and the “second set of C/A signals” are conducted on the “first C/A interconnects” (while other signals may be on the “second C/A interconnects”).

Pet., 32-33.

The relevant claim language at claim element [1.d] recites:

die interconnects including C/A interconnects and data interconnects, the C/A interconnects including at least first C/A interconnects and second C/A interconnects, the first C/A interconnects configured to conduct the first set of C/A signals and the second set of C/A signals,

EX1001, 23:62-67. Samsung contends this is an “unusual requirement,” but

completely ignores how memory typically operates. Indeed, this claim language was discussed during a February 12, 2025 examiner interview as overcoming § 112 issues, and revised to its current form by examiner's amendment on March 20, 2025. EX1002, 800, 832-853. Samsung, on the other hand, takes an unreasonably narrow read of the claimed “first” and “second” “C/A interconnects” and “first set” and “second set” of “C/A signals.” The use of “first” and “second” in the claims does not mean the claimed “first” interconnects correspond to the “first” set of signals or that the “second” interconnects correspond to the “second” set of signals (i.e., there is nothing that requires the “second” signals to be conducted via the “second” interconnects). *See, e.g., The Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1373 (Fed. Cir. 2005) (determining “[t]he terms ‘first, second, and third’ are terms to distinguish different elements of the claim, not terms supplying a numerical limit” or otherwise limiting the claim).

Rather, a POSITA would have understood from the clear language of the claim that the “first” and “second” C/A signals are both conducted on the “first C/A interconnects,” and are respectively associated with read and write operations (see element [1.c.2]) for the first plurality of DRAM dies (see element [1.f]). This is consistent with typical memory operation, in which read and write operations occur at different times, and a DRAM die would receive C/A signals associated with read *and* write operations (albeit at different times) in order to function as

intended. And, as Samsung correctly notes “other signals may be on the ‘second C/A interconnect,’” Pet., 33—these other signals (i.e., C/A signals associated with read and write operations for the second plurality of DRAM dies (see element [1.g])) are simply not recited in the open-ended claim 1.

4. The disclosure supports “‘C/A signals’ that ‘do not include any chip select signal.’”

Claim element [1.k.2] recites “wherein the one or more C/A signals do not include any chip select signal.” EX1001, 24:59-61. Samsung contends the specification does not disclose this claim element. In particular, Samsung argues, “[t]he specification provides affirmative examples of using the chip select signals, not prohibitions against including any chip select signal.” Pet., 33 (citing EX1001, 15:31-40, 16:5-12).

All of the claims are directed to a “DRAM package,” such as the memory package 820 on memory module 810 in Figure 8. EX1001, 21:13-14. The specification teaches embodiments that use “data path control signals,” which are not chip-select signals. EX1001, 21:4-7. The data path control signals are generated by the register device and may be received by the DRAM package via dedicated signal lines instead of other C/A signals (which may include the chip select signals). EX1001, 21:41-47, 21:63-22:5, 22:12-17. These alternative embodiments support the claimed feature.

Novartis explains that discussion of alternatives may provide support for a

negative limitation. *Novartis Pharms. Corp. v. Accord Healthcare, Inc.*, 38 F.4th 1013, 1017 (Fed. Cir. 2022) (“While a negative limitation need not be recited in the specification *in haec verba*, there generally must be something in the specification that conveys to a skilled artisan that the inventor intended the exclusion, such as a discussion of disadvantages *or alternatives*” (emphasis added)). That is the case here.

5. The disclosure supports that “the control die does not include emulation logic” in dependent claim 6.

Claim element [6.c] recites:

wherein the control die does not include emulation logic that performs emulation causing two or more DRAM dies of the stacked DRAM dies to emulate a single DRAM die having a larger capacity than each of the two or more DRAM dies

EX1001, 25:53-57. Samsung argues “[t]he specification also fails to disclose a ‘control die’ that ‘does *not* include emulation logic.’” Pet., 35. A POSITA would have known that “rank multiplication” is a type of “emulation logic.” *See, e.g.*, EX1091, ¶161 (Dr. Wolfe testifying that rank multiplication is an emulation technique). The specification explains that rank multiplication may be performed by the register device 812, which is outside of the DRAM package. EX1001, 22:18-21, FIG. 8. The specification also describes embodiments in which “the memory module 810 does not perform rank multiplication.” EX1001, 22:39-42.

Further, the §112 support for this claim language was expressly discussed during a February 12, 2025 examiner interview, and was moved to prosecution claim 7 (which issued as claim 6) by examiner's amendment on March 20, 2025. EX1002, 800 ("Applicant clarified support for the negative limitation in claim 1 (the last three lines)"), 832-853.

D. Claim 24 contains a clear drafting error that should be corrected via claim construction, resolving any written description or indefiniteness concerns.

Claim 24 contains a clear drafting error that should be corrected via claim construction, as discussed below. But to avoid the issue, Netlist plans to disclaim claims 24-28 and will update the Board when the disclaimer has been filed.

Samsung contends that claim 24 both lacks written description support and is indefinite. Pet., 28-31. According to Samsung, the claimed "fifth" and "sixth," signals are "self-conflicting," and the "eighth" signals are "associated with two different operations." *Id.* For example, Samsung argues:

The specification does not disclose any self-conflicting signals, like the "fifth signals," that are associated with a *write* operation (i.e., going *up*), but sent *down* from the array die to the control die, and that contradiction also renders the claims indefinite.

Pet., 28.

Looking at the parallelism of claim elements 24.m to 24.p (see chart below), it is apparent the issues identified by Samsung are the result of a clear drafting

error, which should be judicially corrected by claim construction as shown by the edits highlighted in yellow below:

24.m.1	in response to the first set of C/A signals , a first subset of the first conduits is configured to drive the first set of C/A signals to a first subset of the first die interconnects, a first subset of the second conduits is configured to receive first signals <i>associated with the first set of C/A signals</i> via a first subset of the second die interconnects and to drive the first signals to the interface; and
24.m.2	a first subset of the third conduits is configured to receive one or more second signals <i>associated with the first set of C/A signals</i> from a first subset of the third die interconnect and drive the one or more second signals to the interface;
24.n.1	in response to the second set of C/A signals , the first subset of the first conduits is configured to drive the second set of C/A signals to the first subset of the first die interconnects, the first subset of the second conduits is configured to receive third signals <i>associated with the second set of C/A signals</i> from the interface and to drive the third signals to the first subset of the second die interconnects; and
24.n.2	a first subset of the fourth conduits is configured to receive one or more fourth signals <i>associated with the second set of C/A signals</i> from the interface and to drive the one or more fourth signals to a first subset of the fourth die interconnect;

24.o.1	in response to the third set of C/A signals , a second subset of the first conduits is configured to drive the third set of C/A signals to a second subset of the first die interconnects, a second subset of the second conduits is configured to receive fifth signals associated with the ~~second~~ third set of C/A signals via a second subset of the second die interconnects and to drive the fifth signals to the interface; and
24.o.2	a second subset of the third conduits is configured to receive one or more sixth signals associated with the ~~second~~ third set of C/A signals from a second subset of the third die interconnect and drive the one or more sixth signals to the interface;
24.p.1	in response to the fourth set of C/A signals , the second subset of the first conduits is configured to drive the fourth set of C/A signals to the second subset of the first die interconnects, the second subset of the second conduits is configured to receive seventh signals associated with the fourth set of C/A signals from the interface and to drive the seventh signals to the second subset of the second die interconnects; and
24.p.2	a second subset of the fourth conduits is configured to receive one or more eighth signals associated with the ~~second~~ fourth set of C/A signals from the interface and to drive the one or more eighth signals to a second subset of the fourth die interconnect;

The Federal Circuit “has repeatedly held that judicial correction of errors in patents is proper in narrow circumstances.” *See Canatex Completion Sols., Inc. v.*

Wellmatics, LLC, No. 2024-1466, 2025 WL 3153362, at *4 (Fed. Cir. Nov. 12, 2025). Although, the “standard for judicial correction is a demanding one,” that standard is met here. *Id.* at *5.

First, “the error must be evident from the face of the patent, ... i.e., obvious, as determined *from the point of view of one skilled in the art.*” *Id.* at *5 (internal quotations omitted, emphasis added). Here, a POSITA would have immediately recognized the drafting error present in claim 24, as identified and corrected above. Indeed, Samsung itself recognizes the clear error, asserting that claim 24 has “contradictory and nonsensical requirements.” Pet., 28.

Second, “[c]orrection is appropriate only if (1) correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Canatex*, 2025 WL 3153362, at *5 (internal quotations omitted); *see also Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d 1339, 1353 (Fed. Cir. 2009) (confirming these “determinations must be made from the point of view of one skilled in the art”). Here, the specific correction is not subject to reasonable debate. It is clear that the claim should have been drafted with the parallel structure, as identified and shown in corrected form above. And unlike *Chef America*, cited by Samsung, nothing in the specification or prosecution history here suggests otherwise. *See* Pet., 14 (citing *Chef Am., Inc. v.*

Lamb-Weston, Inc., 358 F.3d 1371, 1374 (Fed. Cir. 2004)). Issued claim 24 was added as application claim 25 on December 11, 2024. EX1002, 764-766.

Application claim 27, which depends from application claim 25 and was added at the same time, confirms that the claimed “fifth signals” and “sixth signals” are associated with the “*third* set of C/A signals” and that the claimed “seventh signals” and “eighth signals” are associated with the “*fourth* set of C/A signals.” EX1002, 767.

Third, the court in *Canatex* noted that they “have ruled that a district court may correct obvious minor typographical and clerical errors in patents ... [but] have not stated that element as a necessary requirement.” *Canatex*, 2025 WL 3153362, at *5 (internal quotations omitted). In any event, the correction here qualifies as an obvious minor clerical error, as illustrated above.

Thus, judicial correction is appropriate here. Indeed, such correction “is merely giving to [the claim] the meaning which was intended by the applicant and understood by the examiner.” *I.T.S. Rubber Co. v. Essex Rubber Co.*, 272 U.S. 429, 442 (1926). Samsung does not contend there are any written description or indefiniteness problems with claim 24 as properly construed, beyond those already discussed above with respect to claim 1.

VI. THE PETITION FAILS TO DEMONSTRATE THAT IT IS MORE LIKELY THAN NOT THAT THE CLAIMS WOULD HAVE BEEN OBVIOUS.

In addition to the deficiencies identified above, the Petition’s obviousness Grounds fail to demonstrate that is it more likely than not that the claims are unpatentable.

A. Samsung’s challenge to certain claim elements is based solely on unsupported attorney argument because Exhibit 1093 is not sworn testimony that complies with Rule 42.53(a).

Samsung’s expert, Dr. Wolfe, addresses only a subset of the claim elements in his Declaration. *See* EX1003, ¶203 (“In the paragraphs below, I focus on providing context and technical explanations related to specific limitations.”). Instead of addressing all elements, he refers to Exhibit 1093, which is 202-page, unsigned “claim chart” for Grounds 3 and 4. *Id.* Dr. Wolfe cites Exhibit 1093 only once (in ¶203) and does not even attempt to incorporate it by reference into his Declaration.⁷

The Director and the Board should give no weight to Exhibit 1093. Rule 42.53(a) requires that “[u]ncompelled direct testimony must be submitted in the form of an affidavit.” 37 C.F.R. § 42.53(a). Exhibit 1093 is not in the form of an

⁷ To the extent Dr. Wolfe’s statement in ¶203 is read to incorporate Exhibit 1093 into his Declaration, that would violate Rule 42.6(a)(3).

affidavit or declaration. More critically, it lacks a perjury statement and is unsigned. Therefore, it is not evidence in the form of sworn testimony that could support Samsung's obviousness challenges.

As a result, Samsung's challenge to certain claim elements is based solely on attorney argument—which “is not evidence.” *Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1043 (Fed. Cir. 2017). Addressing claim 1, for example, Samsung alleges that the *combination* of Keeth and Shaeffer teaches elements 1.d.1 and 1.d.2. Pet., 66-73. In its analysis of the other independent claims, the Petition refers back to its analysis of these elements. Pet., 121 (claim 9), 128 (claim 13), 132 (claim 20), 133 (claim 23), 140-41 (claim 24). But Dr. Wolfe does not address claim elements 1.d.1 and 1.d.2 in his Declaration, even though the challenge is based on the combined teachings of the references. Accordingly, Samsung's arguments with respect to these elements (and others) amount to nothing more than attorney argument, which is insufficient to satisfy the threshold for institution.

B. Samsung fails to address known secondary considerations of non-obviousness, including its own licensing activities.

Samsung's obviousness challenges are incomplete, and thus should be denied, because Samsung fails to address known secondary considerations of non-obvious, including its own licensing activities related to the '087 patent. Secondary considerations “may often be the most probative and cogent evidence in the record.

It may often establish that an invention appearing to have been obvious in light of the prior art was not.” *Apple Inc. v. Samsung Elecs. Co., Ltd.*, 839 F.3d 1034, 1052-53 (Fed. Cir. 2016) (en banc) (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-59 (Fed. Cir. 1983)). Evidence of secondary considerations “must be considered in every case where present,” *Apple*, 839 F.3d at 1048, and may be “crucial in avoiding the trap of hindsight ...,” *Leo Pharm. Prods., Ltd. v. Rea.*, 726 F.3d 1346, 1358 (Fed. Cir. 2013).

Licensing is one such secondary consideration that must be considered, where present, when evaluating obviousness. *See Ancora Techs., Inc. v. Roku, Inc.*, 140 F.4th 1351, 1362 (Fed. Cir. 2025) (quoting *LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 79 (Fed. Cir. 2012) for the proposition that “[a]ctual licenses to the patented technology are highly probative ... because such actual licenses most clearly reflect the economic value of the patented technology in the marketplace.”). Unlike products, “[l]icenses to the challenged patent ... do not require a nexus with respect to the specific claims at issue, nor does our nexus law require that a particular patent be the only patent being licensed or the sole motivation for entering into a license.” *Ancora Techs.*, 140 F.4th at 1362.

The Board has “cautioned petitioners in prior proceedings that petitions may be denied if they do not address known evidence of secondary considerations.” *Stryker Corp. v. KFX Medical, LLC*, IPR2019-00817, Paper 10 at 28-29 (PTAB

Sept. 16, 2019); *see id.* at 29 (collecting Board decisions issued between 2013-2017); *see also Gilead Sciences, Inc. v. The United States of America, Represented by the Secretary of the Department of Health & Human Services*, IPR2019-01453, Paper 14 at 26-30 (PTAB Feb. 20, 2020) (finding that “Petitioner’s failure to persuasively address the [unexpected results presented during prosecution] in its Petition means Petitioner falls short of its burden to establish a reasonable likelihood of success in prevailing on its challenge”).

Samsung knew of but failed to address in its obviousness Grounds the licensing activities between (1) itself and Netlist and (2) Netlist and SK hynix.

1. Samsung licensed Netlist’s portfolio in 2015.⁸

On November 12, 2015, Netlist and Samsung entered into a JDLA under which Netlist granted Samsung a license to its intellectual property, including patents (e.g., U.S. Patent No. 8,787,060 (“’060 patent”), which is the earliest non-provisional in the ’087 family), continuations, and pending applications (e.g., U.S. Patent Application No. 14/337,168, which issued as U.S. Patent No. 9,318,160 (“’160 patent”) in the ’087 family). EX2001, 1-2, 8. The JDLA enabled Samsung to use Netlist’s technology to develop DRAM memory products that are critical to

⁸ Netlist’s Brief on Discretionary Denial Brief (Paper 8) provides additional details of the history between Samsung and Netlist.

current high-performance computing and AI applications, such as double data rate, 5th generation (DDR5) memory and high bandwidth memory (HBM). EX2015, 7.

As the JDLA indicates, Netlist and Samsung concurrently entered into collateral agreements, including an “Intellectual Property Security Agreement.” EX2002; EX2003; EX2004; EX2006, 5-16. Under the Intellectual Property Security Agreement, Netlist granted Samsung a security interest in Netlist’s patents and patent applications, including divisions, continuations, and continuations-in-part. EX2006, 5. Thus, Samsung recognized the importance and value of Netlist’s patents (and relied on their validity) by requiring them as loan collateral. EX2004. The identified assets included two parents of the ’087 patent: the ’060 patent and U.S. Patent Application No. 14/337,168 (issued as the ’160 patent). EX2006, 15-16. The agreement required that Netlist “[p]rotect, defend, and maintain the validity and enforceability” of the assets. EX2004, 8.

Under the JDLA, Samsung was obligated to supply Netlist certain memory products at competitive prices. However, in 2018, Samsung began to deliberately restrict Netlist’s access to products and repeatedly failed to fulfill Netlist’s orders, forcing Netlist to forgo business opportunities. EX2008, 4. Accordingly, Netlist terminated the JDLA on July 15, 2020, and filed suit in the Central District of California (“CDCA”). EX2008; EX2015, 7. Samsung did not record the release of its security interest to Netlist’s patent assets until October 27, 2023 (after the ’087

patent application was filed). *See* EX2007. Following trial in the CDCA, a jury agreed with Netlist that Samsung breached the JDLA and that Netlist's termination was valid. On April 7, 2025, the district court entered judgement against Samsung pursuant to the jury verdict.⁹ EX2009.

2. SK hynix licensed Netlist's portfolio in 2021.

In 2021, SK hynix licensed Netlist's patent portfolio (including the '087 patent), further demonstrating the industry's desire for access to Netlist's superior technology. EX2023. SK hynix is a leading provider of next generation DIMMs and HBM. In the first three months of FY2025, SK hynix reported \$9.1 billion in revenue in the United States. EX2015, 28. A significant portion of this revenue is attributable to products that include Netlist's patented technology.

* * *

Samsung plainly knew of its own licensing activities with Netlist. It also knew that SK hynix took a license to Netlist's portfolio. EX2039, 689:10-24 (testimony on April 18, 2023, in prior litigation between Netlist and Samsung). Because such known secondary-consideration evidence must be considered when evaluating obviousness, Samsung's fail to address this evidence is fatal to its

⁹ That decision is on appeal to the Ninth Circuit (case number 25-5531). The district court ruling is *res judicata* unless and until overturned on appeal.

obviousness challenges. Accordingly, the Director should deny institution.

C. The Keeth-Shaeffer combination fails to teach the “unidirectional” interconnects/conduits claim elements.

1. Claim 1 (elements 1.*l* and 1.*m*)

The Keeth-Shaeffer combination fails to teach the “unidirectional” interconnects/conduits claim elements that are recited in the independent claims. Samsung’s obviousness analysis of the independent claims focuses primarily on claim 1, and addresses the “unidirectional” interconnects/conduits elements of the other independent claims by referring back to its analysis of claim 1. *See* Pet., 120-121 (addressing claim 9), 128-130 (addressing claim 13), 132-133 (addressing claim 20), 133-134 (addressing claim 23), 139-148 (addressing claim 24). Netlist thus focuses first on claim 1, then addresses the remainder of the independent claims.

Claim element 1.d.1 recites “die interconnects,” and elements 1.*l* and 1.*m* require “*the* die interconnects” of element 1.d.1 to include first and second “unidirectional interconnects,” respectively. Specifically, claim elements 1.*l* and 1.*m* recite:

- **Element 1.*l*:** “wherein *the* die interconnects further include *first unidirectional interconnects* configured to conduct signals from one or more DRAM dies of the stacked DRAM dies to the control die and not configured to conduct any signal from the control die to any of the

stacked DRAM dies.” Pet., Claim Listing at xviii.

- **Element 1.m:** “wherein *the* die interconnects further include *second unidirectional interconnects* configured to conduct signals from the control die to one or more DRAM dies of the stacked DRAM dies and not configured conduct any signal from any of the stacked DRAM dies to the control die.” *Id.*

Samsung relies on Keeth’s interleaving conductive paths shown in Figure 5 of Keeth to satisfy the “die interconnects” recited in element 1.d.1. Pet., 66-68. In the Petition, Samsung annotates Figure 5 of Keeth, reproduced below, to show a first conductive path 507 in red and a second conductive path 508 in blue. Pet., 67. As shown by the double-headed arrows in Figure 5 of Keeth, and confirmed by Samsung’s own annotations in red and blue, Keeth’s interleaving conductive paths are expressly depicted as bi-directional. EX1047, FIG. 5; Pet., 67. Nowhere does Keeth describe the interleaving conductive paths as unidirectional. Nor does Samsung allege that Keeth describes these paths as unidirectional. *See* Pet., 66-73.

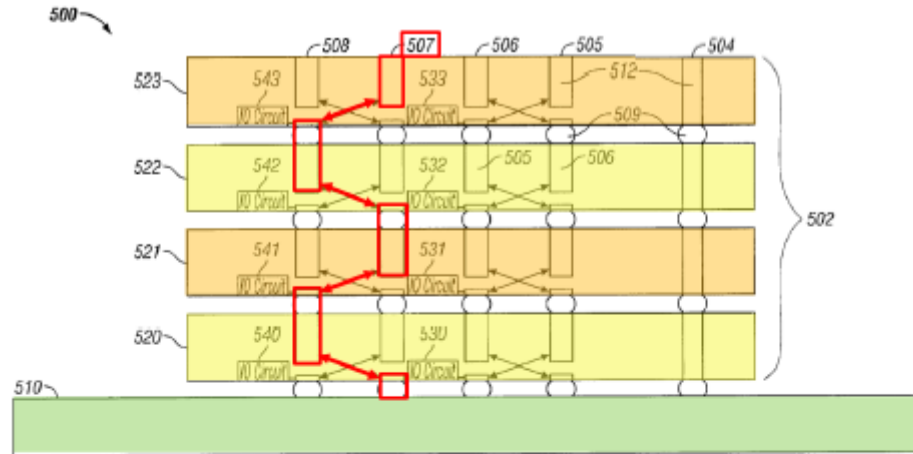


FIG. 5

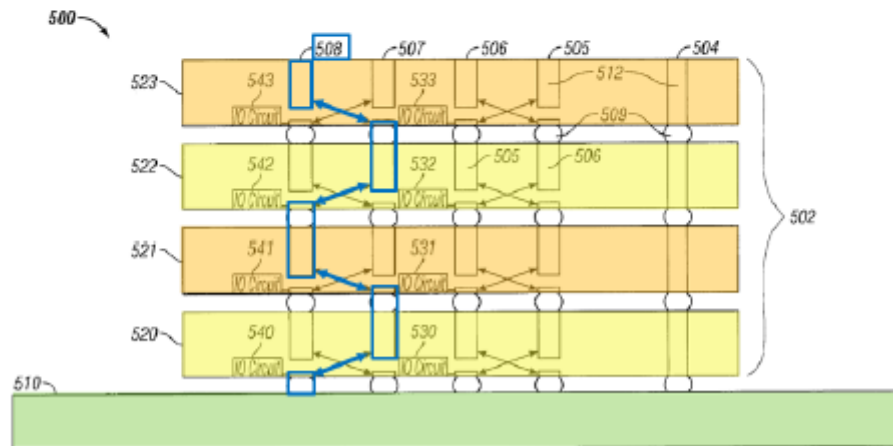


FIG. 5

Pet., 67 (annotating Figure 5 of Keeth, EX1047).

Turning to the “unidirectional interconnects” recited in elements 1.*l* and 1.*m*, Samsung posits that it would have been obvious to implement Shaeffer’s interface for transmitting certain signals in Keeth’s die interconnects. Pet., 95-100. Namely, for element 1.*l*, Samsung alleges that “a POSITA would have implemented Shaeffer’s TRS/EDC signaling in Keeth’s die interconnects.” Pet., 97. And for element 1.*m*, Samsung alleges that a POSITA would have implemented Shaeffer’s

Data Clock 122 signaling in Keeth's die interconnects. Pet., 99-100.

But Samsung fails to account for the fact that Keeth plainly depicts its die interconnects as bi-directional, not unidirectional. EX1047, FIG. 5; *see* Pet., 67. Even assuming Shaeffer teaches unidirectional signaling, neither Samsung nor Dr. Wolfe provides any explanation why a POSITA would have modified Keeth's bi-directional die interconnects to be unidirectional, which is contrary to Keeth's express disclosure. *See* Pet., 95-100; EX1003, ¶¶245-254. Indeed, Keeth's teaching that the die interconnects are bi-directional would have dissuaded a POSITA from modifying Keeth using Shaeffer's unidirectional signaling techniques, as Samsung proposes. *See Arctic Cat v. Bombardier Recreational Products*, 876 F.3d 1350, 1363 (Fed. Cir. 2017) (even where "evidence may not rise to the level of teaching away," it may suggest "reasons that a skilled artisan would be discouraged from pursuing such a combination."). In any event, it is Samsung's burden to prove otherwise, and they have failed to do so.

Accordingly, the Director should deny institution.

2. Claims 9, 13, 20, 23, and 24

Each of independent claims 9, 13, 20, and 23 recite "die interconnects" elements similar to claim element 1.d.1 and first and second "unidirectional interconnects" elements similar to claim elements 1.*l* and 1.*m*. Claim 24 similarly recites "unidirectional" conduits. As shown below, Samsung refers to its analysis

of claim 1 to address these elements, and thus fails to demonstrate that Keeth and Shaeffer renders claims 9, 13, 20, 23, and 24 obvious.

- **Claim 9:** *See* Claim Listing in Petition at xx, element 9.b.4 reciting “*the* die interconnects including ... first unidirectional interconnects and second unidirectional interconnects”; Pet., 121 (addressing 9.b.4 by reference to “[1.d.1]-[1.d.2], [1./]-[1.m]”).
- **Claim 13:** *See* Claim Listing in Petition at xxiii, element 13.f reciting “*the* die interconnects include ... first unidirectional interconnects, and second unidirectional interconnects”; Pet., 128 (addressing 13.f by reference to “[1.d.1]-[1.d.2], [1./]-[1.m]”).
- **Claim 20:** *See* Claim Listing in Petition at xxviii, element 20.i reciting “wherein *the* die interconnects further include first unidirectional interconnects and second unidirectional interconnects”; Pet., 132 (addressing element 20.i by reference to “[1./]-[1.m]”).
- **Claim 23:** *See* Claim Listing in Petition at xxxi, element 23.i reciting “wherein *the* die interconnects further include first unidirectional interconnects and second unidirectional interconnects”; Pet., 134 (addressing element 23.i by reference to “[1./]-[1.m]”).
- **Claim 24:** *See* Claim Listing in Petition at xxxii-xxxiii, elements 24.j (reciting “each of the third conduits being a unidirectional

conduit...”), and 24.k (reciting “each of the fourth conduits being a unidirectional conduit...”); Pet., 141 (addressing elements 24.j and 24.k by reference to elements 1.l and 1.m).

D. Samsung fails to demonstrate RES for Keeth-Shaeffer

“[W]here a party argues a skilled artisan would have been motivated to combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat*, 876 F.3d at 1360-61.

Throughout its challenges in Grounds 3 and 4, Samsung relies heavily on the combination of Keeth and Shaeffer to address the claims. Samsung, however, fails to demonstrate the requisite reasonable expectation of success in combining these references. Specifically, Samsung provides only a single, cursory sentence to address this requirement: “Lastly, as evidenced by these prior art references, including industry standards, implementing Shaeffer’s signaling protocols in the memory stack of Keeth was well within the level of skill at the time and a POSITA would have a reasonable expectation of success in making the combination.” Pet., 51-52. Because such a cursory allegation is insufficient to satisfy the threshold for institution, the Director should deny the Petition. *See Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential) (explaining that the threshold for institution requires “far more than is required in typical notice pleading, which only requires that a party make

plausible claims.”).

E. The Petition does not address all elements of independent claims 9, 13, 20, 23, and 24.

Samsung takes shortcuts and simply fails to address all elements of independent claims 9, 13, 20, 23, and 24. Instead, Samsung relies heavily on its arguments for claim 1, addressing most of the elements of claims 9, 13, 20, 23, and 24 by referring back to its analysis of claim 1. *See* Pet., 120, 128, 132-134, 139-148. But, as redline comparisons show, the independent claims and their specific elements are not the same. *See* EX2036. The chart below illustrates exemplary elements that Samsung fails to adequately address.

Claim limitation		... is not addressed by the Petitioner
9.c	receiving <i>via the interface</i> a first set of C/A signals for a memory read operation and a second set of C/A signals for a memory write operation, the first set of C/A signals including one or more first signals to select a first DRAM die in the first plurality of DRAM dies <i>to respond to the first set of C/A signals</i> , and the second set of C/A signals include one or more second signals to select a second DRAM die in the first plurality of stacked DRAM dies <i>to respond to the second set of C/A signals</i> ;	The Petition relies on its analysis for 1.c.1, 1.c.2, 6.a, and 6.b. Pet., 121. None of those claims recite “receiving <i>via the interface</i> ” or selecting DRAM dies “ <i>to respond to the C/A signals</i> .”
9.d.1	in response to the first set of C/A signals, <i>driving the first set of C/A signals to C/A ports</i> of the first plurality of DRAM dies via the first C/A interconnects, receiving from the first DRAM die first data signals associated with the first set	The Petition does not address the claimed features, but only lists six limitations from claim 1, without further explanation of how those limitations relate to 9.d.1. Pet., 121.

Claim limitation		... is not addressed by the Petitioner
	of C/A signals via the first data interconnects, <i>driving the first data signals to the interface</i> , and	
9.e.1	in response to the second set of C/A signals, <i>driving the second set of C/A signals to C/A ports</i> of the first plurality of DRAM dies via the first C/A interconnects, <i>receiving second signals</i> associated with the second set of C/A signals <i>from the interface</i> , <i>driving the second data signals to the first plurality of DRAM dies</i> via the first data interconnects and not to any of the second plurality of DRAM dies via any of the data interconnects, and	The Petition does not address the claimed features, but only lists six limitations from claim 1, without further explanation of how those limitations relate to 9.e.1. Pet., 121.
9.f.1	wherein <i>each of the first data interconnects</i> is in electrical communication with corresponding data ports on a first plurality of DRAM dies of the stacked DRAM dies and not in electrical communication with any data port on <i>any other DRAM die</i> of the stacked DRAM dies,	The Petition points to 1.h.1, which has limitations that differ from the italicized limitations. Pet., 122.
13.b	a plurality of stacked DRAM dies, each DRAM die of the plurality of stacked DRAM dies including command/address (C/A) ports, data ports and DRAM memory cells, wherein the each DRAM die is configurable to transfer data between the data ports and the DRAM memory cells in response to C/A signals received via the C/A ports, <i>each of the data ports being a bi-directional data port</i> ;	The Petition points to 1.d.2 for “ <i>each of the data ports being a bi-directional data port.</i> ” Pet., 128 n.11. However, 1.d.2 recites “ <i>a first data interconnect</i> ” and not “ <i>each of the data ports.</i> ”

Claim limitation		... is not addressed by the Petitioner
20.e.2	the control die including <i>conduits coupled to respective ones of the die interconnects</i> ;	The Petition does not address the claimed feature of <i>conduits coupled to respective ones of the die interconnects</i> , which are different than the features of 1.e.2-1.e.4. Pet., 132.
23.e.2	the control die including <i>conduits coupled to respective ones of the die interconnects</i> ;	The Petition does not address the claimed feature of <i>conduits coupled to respective ones of the die interconnects</i> which are different than the features of 1.e.2-1.e.4. Pet., 134.
24.e	die interconnects, each die interconnect of the die interconnects coupled between at least one corresponding conduit in the control die and one corresponding signal port in each of a subset of the stacked DRAM dies, <i>the each die interconnect including through silicon vias (TSVs) in at least some of the stacked DRAM dies</i> ;	The elements of claim 1 (1.d.3, 1.e.2-1.e.4) pointed to by the Petition do not recite the die interconnect includes a TSV. Pet., 139.

Because Samsung fails to address all elements of independent claims 9, 13, 20, 23, and 24, it fails to meet its burden to demonstrate that it is more likely than not that these claims, or their dependents, are unpatentable. As explained in Section VII, even if the Director determines that Samsung has met the threshold for institution for claim 1 (which it has not), the Director should still deny the Petition due to this deficiency under *Chevron Oronite Co. LLC v. Infineum USA L.P.*, IPR2018-00923, Paper 9 (PTAB Nov. 7, 2018) (informative) and *Deeper, UAB v. Vexilar, Inc.*, IPR2018-01310, Paper 7 (PTAB Jan. 24, 2019) (informative).

VII. *CHEVRON* AND *DEEPER* FAVOR DENYING INSTITUTION.

The merits consideration phase includes determining whether the petition presents a sufficient number of grounds/challenges that meet the more likely that not standard. Interim Process, § I.F. When “a petition meets the standards for institution in relation to fewer than all the challenges presented, or where deficiencies in the petition ... affect only a portion of the challenges presented, the [Board] will evaluate all the challenges and determine whether, in the interests of efficient administration of the Office and integrity of the patent system, the entire petition should be denied.” Trial Practice Guide, § II.D.3 (citing 35 U.S.C. §§ 316(b), 326(b); *accord Chevron Oronite Co., LLC*, IPR2018-00923, Paper 9 (informative); *Deeper, UAB*, IPR2018-01310, Paper 7 (informative)).

As discussed throughout this Preliminary Response, the Petition suffers from numerous fatal deficiencies. Given these defects, institution of review should be denied even if some of the claims meet the standard for institution (which they do not). It would not be an efficient use of the Board’s valuable time and resources to institute review when resolution of this proceeding would be costly and time-consuming to address challenges that are flawed from the outset. *See* Interim Processes Memo, 3; 35 U.S.C. § 326(b).

VIII. THE PETITION VIOLATES THE BOARD’S RULES AND IS FACIALLY DEFICIENT.

Samsung concurrently filed two petitions against the ’087 patent, an IPR

petition and a PGR petition. Paper 3. Each of Samsung's Petitions challenges all claims—which are long and detailed—based on the same obviousness Grounds. Paper 3, 1. “[A]s the master of its own petition,” Samsung could have focused each petition “on a separate, manageable subset of the claims to be challenged.” *Intuitive Surgical, Inc. v. Ethicon LLC*, 25 F.4th 1035, 1041-42 (Fed. Cir. 2022). It chose not to. And in its effort to challenge all claims as allegedly obvious in each Petition, Samsung takes a number of shortcuts that violate the Board's rules and expose fatal substantive deficiencies that warrant denying institution.

A. The Petition does not identify the evidence relied upon in its challenges with particularity, as required.

Samsung fails to identify its obviousness challenges “with particularity.” 35 U.S.C. § 322(a)(3). “[T]he expedited nature of IPRs [and PGRs] bring with it an obligation for petitioners to make their case *in their petition* to institute.” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (emphasis added). To do so, the petition must identify, “in writing and *with particularity*, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 322(a)(3) (emphasis added). The petition here does not.

First, the Petition presents Grounds 3 and 4 as one jumbled section, with no attempt to distinguish its arguments. *See* Pet., 38-149. Rather, it leaves to the

Board and Netlist to puzzle out the differences between the challenges and why Samsung added the additional reference to Ground 4.

Next, the Petition often presents conclusory statements that are followed by lengthy string citations with little to no explanation on how the cited evidence supports the assertion. For example, in the analysis of limitation 1.a-1.b.1, the Petition makes a conclusory assertion that Keeth discloses the limitation and then provides a string citation to both Keeth (EX1047) *and Shaeffer* (EX1048), with no explanation or reasoning on why it points to Shaeffer as support that Keeth discloses the element. *See Pet.*, 38. As another example, in analyzing 1.d.1, the Petition makes the assertion that Keeth's interleaving paths can be used for C/A signals, and then provides a string cite to numerous passages and claims in Keeth, leaving it to the Board and Netlist to figure out how to cobble together the sections. *See Pet.*, 66-67. These are just a few examples; there are many others.

The Director should reject these arguments because they are insufficient to satisfy Petitioner's burden of persuasion. *See Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023) (noting that a party's burden "cannot be met simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence"). Such cursory analysis falls well short of Petitioner's obligation to perform reasoned analysis. Because this deficiency is replete throughout the entire Petition, the Director should deny

institution.

B. The Petition violates the Board's word count limit.

Trying to pack in too much, Samsung's Petitions unsurprisingly violate the Board's rules on word count limits. An IPR petition is limited to 14,000 words, and a PGR petition is limited to 18,700 words. 37 C.F.R. § 42.24(a)(1)(i)-(ii).

In the IPR proceeding, Samsung's certification of compliance indicates that the Petition contains 13,833 words and complies with the Board's rule. IPR2025-01402 Pet., 123. However, the actual word count of the Petition is 14,214 words, including 41 words in annotations. EX2037, 1-2. Samsung's violation in the PGR is much worse. There, Samsung certifies that the Petition complies with the Board's rules and contains 18,692 words. Pet., 151. But the correct word count of the PGR Petition is 19,592 words, including 669 words in annotations. EX2037, 3-4.

Samsung has a history of disregarding this forum's rules. For example, in the final written decision in a prior IPR, the Board required Samsung to file a revised Reply because of its attempted circumvention of the word count rules. *Samsung Elecs. Co., Ltd. v. Netlist, Inc.*, IPR2023-00847, Paper 42 at 70-71 (PTAB Dec. 10, 2024). The Board has also warned Samsung against impermissible incorporation by reference, which is another way of violating the word limit. *Samsung Elecs. Co., Ltd. v. Netlist, Inc.*, IPR2025-00001, Paper 17 at 25

(“Petitioner should be mindful going forward that we will not ‘play archeologist with the record.’”). And the Board has also found Samsung engaged in “gamesmanship by using non-standard cites without spaces in an attempt to circumvent the word count requirement.” *Samsung Elecs. Co., Ltd. v. Netlist, Inc.*, IPR2022-00615, Paper 6 at 3 (PTAB July 6, 2022) (also finding the same gamesmanship in IPR2022-00639 and IPR2022-00711). The Board’s rules clearly set forth that a petition will not be accorded a filing date until the petition complies with § 42.204 (which includes compliance with the word count limits set forth in § 42.24). 37 C.F.R. § 42.206. Rather than permitting Samsung to correct its petition when it repeatedly disregarded the Board’s rule, institution should be denied.

IX. CONCLUSION

Because the Petition suffers fatal procedural and substantive defects, the Director should deny institution.

Respectfully submitted,

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CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

1. This Patent Owner Preliminary Response complies with the type-volume limitation of 18,700 words, comprising 14,909 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Patent Owner 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 font.

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

I certify that the above-captioned **PATENT OWNER PRELIMINARY
RESPONSE UNDER 37 C.F.R. § 42.207(a)** and associated Exhibits 2030-2039
were served in their entireties on December 4, 2025, upon the following parties via
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