

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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LAM RESEARCH CORP.,  
Petitioner,

v.

INPRIA CORP.,  
Patent Owner.

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IPR2024-00033  
Patent 9,823,564 B2

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Before GRACE KARAFFA OBERMANN, KRISTINA M. KALAN,  
and DEBRA L. DENNETT, *Administrative Patent Judges*.

OBERMANN, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Lam Research Corp. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting institution of an *inter partes* review of claims 1–12 of U.S. Patent No. 9,657,564 B2 (Ex. 1001, “the ’564 patent”). Inpria Corp. (“Patent Owner”) filed a Preliminary Response opposing that request. Paper 11 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2023). We may institute review, however, only upon a determination that “there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.” 35 U.S.C. § 314(a). Applying that standard, for reasons set forth below, we institute an *inter partes* review.

### A. *Real Parties-in-Interest*

Petitioner identifies itself as the sole real party-in-interest. Pet. 4. Patent Owner also identifies itself as sole the real party-in-interest. Paper 4, 2.<sup>1</sup>

### B. *Related Matters*

The parties identify *Inpria Corp. v. Lam Research Corp.*, Case No. 1:22-cv-01360 (D. Del.) as a related matter. Pet. 4; Paper 4, 2.

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<sup>1</sup> Paper 4 is unpaginated. For clarity, when entering documents in the record, the parties should ensure that all papers and exhibits include page numbers.

## II. BACKGROUND

### A. *The '564 Patent (Ex. 1001)*

The '564 patent is titled “Patterned Inorganic Layers, Radiation Based Patterning Compositions and Corresponding Methods.” Ex. 1001, code (54). The claimed invention relates to stabilized precursor solutions useful for forming inorganic coating materials designed for patterning with radiation. *Id.* at code (57).

By way of background, semiconductor-based devices may be based on structures formed through an iterative process that includes deposition or removal of patterned materials. *Id.* at 1:38–46, 4:52–60. The '564 patent describes “silicon wafers” in which a precursor solution is “coated on a standard lithography spin coating rack.” *Id.* at 22:8–13. The amount of precursor solution dispensed is “selected based on the desired coating thickness and the size of the wafer.” *Id.* at 22:15–18. “The thickness of the coating generally can be a function of the precursor solution concentration, viscosity and the spin speed.” *Id.* at 14:43–45. Critical to this Decision, the claimed invention includes a “coating material” that “has an average thickness from 5 nm to 30 nm.” *Id.* at 24:11–12.

The Specification indicates that “inorganic precursor solutions” may “provide for superior direct patterning results.” *Id.* at 3:66–67. An example describes “a  $ZrO^{+2}$ -based coating” irradiated with patterned ultraviolet light to produce a patterned coating material, which results in “highly resolved patterns” in the “Zr-based coating material.” *Id.* at 22:38–54.

The Specification further indicates that “radiation sensitive inorganic compositions” purportedly improve “the structure of the patterned material.” *Id.* at 5:2–8. According to the Specification, “[i]n some embodiments, it can

be desirable to use a thin coating to facilitate formation of small and highly resolved features.” *Id.* at 14:48–49.

### *B. Challenged Claims*

Claim 1, reproduced below, is the only independent challenged claim.

1. A structure comprising a substrate and a coating material on a surface of the substrate, wherein the coating material comprises metal ions with radiation sensitive ligands and wherein ***the coating material has an average thickness from 5 nm to 30 nm***, wherein exposure of the coating material to UV, EUV and/or electron-beam radiation alters the chemical properties of the coating material creating an exposed coating material with differential dissolution rates between exposed and un-exposed regions of the coating material.

Ex. 1001, 24:8–17 (Board’s emphasis).

Claims 2–5 and 7–12 depend directly from claim 1 and inherit the emphasized limitation, which we refer to in our analysis as “the coating limitation” of claim 1. *Id.* at 24:18–29, 24:31–44. Claim 6 also depends from claim 1, but specifies a coating material that has an “average thickness” that “is from 5 nm to 25 nm.” *Id.* at 24:29–30.

### *C. Grounds of Unpatentability*

The Petition advances grounds of unpatentability based on 35 U.S.C. § 102 and 35 U.S.C. § 103.<sup>2</sup> We identify the grounds in the following chart.

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<sup>2</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), includes revisions to Sections 102 and 103 that became effective on March 16, 2013. We apply the AIA law to the challenges because the claims issued from an application filed after March 16, 2013. Ex. 1001, code (22). Neither party indicates that the result on institution would change by applying the pre-AIA law.

Ground	35 U.S.C. §	Claims Challenged	Reference(s)/Basis
1	102	1–12	'888 Publication <sup>3</sup>
2	102	1–5, 7–10, 12	Stowers 2008 <sup>4</sup>
3	103	1–10, 12	Stowers 2008
4	103	8	Stowers 2008, Stowers 2009 <sup>5</sup>
5	102 or 103	1, 3, 6, 7, 9, 11, 12	Trikeriotis <sup>6</sup>

Pet. 3. Petitioner relies on the Declaration of Dr. Karey Holland. Ex. 1002.  
Patent Owner relies on the Declaration of Dr. John S. McCloy. Ex. 2001.

### III. ANALYSIS

#### A. *Level of Ordinary Skill in the Art*

Petitioner proposes, and Patent Owner does not dispute at this stage of the proceeding, that an ordinarily skilled artisan would have had “at least a graduate degree, such as a Masters or Ph.D., in a relevant discipline such as in chemistry, materials science, chemical engineering, physics, or an equivalent field,” as well as between one and three “years of experience in the research, design, development and/or testing of resist materials.” Pet. 5;

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<sup>3</sup> U.S. Patent Pub. No. 2011/0293888, published Dec. 1, 2011 (Ex. 1003).

<sup>4</sup> Stowers, Jason K., *Direct patterning of solution deposited metal oxides*. Oregon State University, 2008 (Ex. 1008).

<sup>5</sup> Stowers, Jason K. et al., *High resolution, high sensitivity inorganic resists*. *Microelectronic Engineering* 86:4–6 (2009), 730–733 (Ex. 1010).

<sup>6</sup> Trikeriotis et al., *Development of an inorganic photoresist for DUV, EUV, and electron beam imaging*. *Advances in Resist Materials and Processing Technology XXVII Vol. 7639*, SPIE, 2010 (Library Version) (Ex. 1024).

*see* Prelim. Resp. 5 (adopting Petitioner’s definition for purposes of the Preliminary Response).

The prior art itself can reflect the appropriate level of ordinary skill in the art. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). For the sole purpose of deciding whether to institute review, we apply Petitioner’s definition because, based on this preliminary record, it appears to be consistent with the disclosures of the asserted prior art references. Further, on this record, Petitioner’s definition is supported by the declaration testimony of Dr. Holland and stands uncontested by Patent Owner. Ex. 1002 ¶¶ 18–20; Prelim. Resp. 5.

#### *B. Claim Construction*

We construe the terms of a patent claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). Under that standard, claim terms generally are given their plain and ordinary meaning as would have been understood by the ordinarily skilled artisan at the time of the invention and within the context of the entire patent disclosure. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

We expressly construe disputed claim terms as necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). Petitioner argues that no express construction is necessary, with one exception relating to claim 8. Pet. 6. Patent Owner counters that no express claim construction is necessary. Prelim. Resp. 5.

We agree with Patent Owner. In this Decision, we address whether the '888 Publication, which Petitioner argues anticipates each challenged claim, qualifies as prior art. No claim term requires express construction to resolve that issue. We decline to provide an express construction for any claim term because no express construction is necessary to this Decision.

*C. The Patentability Challenges*

*1. Ground Based on Anticipation by the '888 Publication*

Petitioner argues that claims 1–12 are unpatentable as anticipated by the '888 Publication. Pet. 3 (grounds chart). The '888 Publication is the work of the same individuals named as the inventors on the face of the '564 patent. *Compare* Ex. 1001, code (72), *with* Ex. 1003, code (76). Petitioner explains, and Patent Owner does not contest at this juncture, that the '888 Publication “contains the same disclosure as the '564 patent specification.” Pet. 26.

Petitioner advances arguments, supported by detailed claim charts, that map with particularity every limitation of the challenged claims to disclosures in the '888 Publication. *Id.* at 24–33. For example, Petitioner identifies Example 4, which discloses a coating thickness of 20 nm, to support its argument that the '888 Publication anticipates the coating limitation of claim 1 (“from 5 nm to 30 nm”) and claim 6 (“from 5 nm to 25 nm”). Pet. 27, 29; Ex. 1001, 24:12 (claim 1), 24:30 (claim 6); Ex. 1003, ¶¶ 102–107 (Example 4). At this stage of the proceeding, Patent Owner identifies no deficiency in Petitioner’s anticipation arguments and declines to address Petitioner’s mapping of claim limitations. Prelim. Resp. 5–18 (declining to contest on this preliminary record the sufficiency of

Petitioner’s showing that every limitation of claims 1–12 is disclosed in the ’888 Publication).

Based on our review of Petitioner’s uncontested arguments, including the table in the Petition that identifies where each limitation of the challenged claims allegedly is disclosed in the ’888 Publication, we determine that there is a reasonable likelihood that Petitioner would prevail in showing that the ’888 Publication anticipates claims 1–12. Pet. 26–33. We institute review on that basis.

We next provide a detailed explanation as to why we institute review, notwithstanding Patent Owner’s arguments that (a) claims 1–12 are entitled to a priority date that antedates the ’888 Publication, thereby removing that reference as prior art, and (b) the Board should exercise its discretion and deny institution based on this challenge under 35 U.S.C. § 325(d). *Id.*

*a) Priority Date of Claims 1–12*

*i. Legal Principles*

Petitioner submits that the challenged claims are entitled to a priority date of September 18, 2015, “the actual filing date of the ’564 patent.” Pet. 18; *see* Ex. 1001, code (22). Patent Owner disagrees, arguing that these claims were “conceived” and “possessed by the inventors” no later than August 5, 2010, “the original filing date of the ’867 application.”<sup>7</sup> Prelim. Resp. 11–12 (citing Ex. 2001 ¶ 27). Our preliminary resolution of that dispute controls whether the ’888 Publication, which was published on

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<sup>7</sup> U.S. Patent App. No. 12/850,867 (Ex. 1004). The ’564 patent issued from a continuation of the ’867 application, which lists the same inventors as the ’564 patent and the ’888 Publication. *Id.* at 1; *see* Ex. 1001, code (63), (72); Ex. 1003, code (76).



December 1, 2011, qualifies as prior art for the purposes of deciding whether to institute review. Ex. 1003, code (43).

Significantly, although Petitioner bears the ultimate burden of persuasion to prove unpatentability of the challenged claims, Patent Owner bears the burden of production on the question of whether claims 1–12 are entitled to the filing date of the '867 application, when relying on that date to overcome the patentability challenges. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379–80 (Fed. Cir. 2015) (discussing burdens applicable to priority date disputes).

The test for written description support “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The Specification must clearly allow persons of ordinary skill in the art to recognize that the inventors invented what is claimed, and “reasonably” convey to those skilled in the art that the inventors “had possession of the claimed subject matter as of the filing date.” *Id.* 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.*

We find instructive a recent precedential decision from our reviewing court that surveys the caselaw and considerations that bear on the written description inquiry where, as here, a claimed range is subsumed by a range disclosed in an asserted priority application. *RAI Strategic Holdings, Inc. v. Philip Morris Prods. S.A.*, 92 F.4th 1085, 1088–1091 (Fed. Cir. 2024)

(precedential).<sup>8</sup> For example, the inquiry in that case, as in this case, includes whether “[a] broad described range pertains to a different invention than the narrower (and subsumed) claimed range.” *Id.*, 92 F.4th at 1090 (quoting *In re Wertheim*, 541 F.2d 257, 265 (CCPA 1976)). Of particular importance to our analysis below, that consideration requires us to take account adequately of any evidence which indicates that the disclosed range “behaves any differently than the claimed range.” *Id.*, 92 F.4th at 1091.

ii. Overlapping or Subsumed Ranges

Patent Owner directs the Board to Example 3 in the ’867 application, which discloses a coating material “deposited at a thickness [from] 10–50 nm.” Prelim. Resp. 11 (alteration in original; quoting Ex. 1004, 35:14–15).<sup>9</sup> In addition, Patent Owner cites a separate disclosure in the ’867 application that lists “average” coating thickness ranges of “no more than 1 micron,” that is, 1000 nm, “no more than about 250” nm, “from ‘about 1’” nm “to about 50 nm,” and from “about 1 nm to about 40 nm.” *Id.* (quoting Ex. 1004, 23:14–22). Patent Owner also observes that the ’867 application “states that ‘[a] person of ordinary skill in the art will recognize that additional ranges of thicknesses within the explicit ranges above are contemplated and are within the present disclosure.’” *Id.* (quoting Ex. 1004, 23:22–24).

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<sup>8</sup> Patent Owner focuses exclusively on the coating limitation of claim 1. *Id.* at 10 (heading). We similarly focus our analysis on the coating limitation of claim 1, but our analysis applies with equal force to claim 6.

<sup>9</sup> We adopt Petitioner’s convention and refer to page numbers added to Exhibit 2004. The citation based on the original pagination is 33:14–15.

On the current record, we accept Patent Owner’s view that the “average” thickness specified in claim 1 — that is, “from 5 nm to 30 nm” — overlaps the range disclosed in Example 3 and is subsumed by the ranges listed elsewhere in the ’867 application. *Id.* For reasons that follow, based on the evidence presented on the current record, we preliminarily determine that the ’867 application does not “reasonably convey[] to those skilled in the art that the inventor[s] had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc.*, 598 F.3d at 1351.

iii. Statements Made During Examination

When assessing whether a broad disclosed range provides written description support for a subsumed claimed range, we take account of any available evidence tending to support that the disclosed range “behaves any differently than the claimed range.” *RAI*, 92 F.4th at 1091. The current record, in fact, includes evidence that a 5 nm deviation from the upper endpoint of the range recited in claim 1 (namely, 30 nm) “changes the invention, whether as to operability, effectiveness, or any other parameter.” *Id.*, 92 F.4th at 1090. In Petitioner’s view, Patent Owner should not be heard to argue against that factual proposition. Pet. 17 (citing Ex. 1002 ¶ 67; Ex. 1007, 508; Ex. 1009, 264).

During examination of the application leading to the ’564 patent, the applicant overcame a prior art rejection, and secured issuance of claims 1–12, by arguing to the Examiner that a prior art coating of “35 nm” is “not close enough” to the “30 nm” upper endpoint of the claimed coating thickness range to create an inference “that one would expect them to have the same properties.” Ex. 1007, 508; *see id.* at 535–541 (Office Action), 582–588 (allowance). Petitioner argues that Patent Owner thereby is

“estopped from now arguing that 5 nm is ‘close enough’ to 1 nm or 10 nm, or that 30 nm is ‘close enough’ to 25 nm, 40 nm, or 50 nm, such that these endpoint values provide support for the claimed ranges of 5 nm to 30 nm (claim 1) or 5 nm to 25 nm (claim 6).” Pet. 17; *see* Ex. 1007, 508 (prosecution history of the application leading to the ’564 patent); *see also* Ex. 1009, 264 (similar argument made by the applicant to the Office in connection with a related patent application, namely, that “[a] person of ordinary skill in the art would not understand” a coating having a thickness of 35 nm “to fall within the scope of about 30 nm,” because, in this particular field of invention, the coating “thickness can be evaluated on the order of one nm” and “5 nm” is “different”); Ex. 1002 ¶ 67 (Dr. Holland’s declaration testimony on point).

Patent Owner counterargues that estoppel does not apply. Prelim. Resp. 15. We decline to resolve whether prosecution history estoppel applies to the written description inquiry in this case. Instead, for purposes of deciding whether to institute review, we determine that Patent Owner’s counterarguments are developed inadequately to undercut the sufficiency of the evidence raised by Petitioner to support a preliminary finding that the challenged claims are not entitled to the filing date of the ’867 application. *Compare id.*, with Pet. 17 and Ex. 1002 ¶ 67; Ex. 1007, 508; Ex. 1009, 264.

Patent Owner merely identifies differences between the disclosures of the ’867 application and the prior art raised by the Examiner, but stops short of explaining why, or to what extent, those differences materially alter the evidentiary value of the applicant’s statements that a coating thickness of 35 nm “is not close enough” to a coating thickness of 30 nm such “that one would expect them to have the same properties.” Ex. 1007, 508; *see*

Ex. 1009, 264 (similar statement). Nor does Patent Owner explain adequately, if at all, why its observation that obviousness and written description “are not the same” should diminish the weight given those statements in this proceeding. Prelim. Resp. 15.

To be clear, we acknowledge that the guiding principles set forth in *Wertheim* frequently lead to a determination that a disclosed broad range adequately supports a narrower (and subsumed) claimed range. But that is not always the case. “The *Wertheim* court explained that in determining whether the written description requirement is met, “[m]ere comparison of ranges is not enough.” *RAI*, 92 F.4th at 1091 (quoting 541 F.2d at 263) (alteration in original).

The preliminary record does not support a determination that the subsuming range of 1–50 nm, or any other range disclosed in the ’867 application, pertains to the same invention as the range of 5 nm to 30 nm (claim 1) or 5 nm to 25 nm (claim 6). To the contrary, on this record, it appears that claims 1–12 issued only after the applicant assured the Examiner that “35 nm” is *not* the same as “30 nm” and would *not* result in a coating material that exhibits “the same properties.” Ex. 1007, 508. In other words, the available evidence indicates that a coating having an average thickness of 35 nm “behaves . . . differently than” a coating having an average thickness of 30 nm. *RAI*, 92 F.4th at 1091.

The applicant unambiguously stated that a difference of even 5 nm between range endpoints, when moving from an average coating thickness of 30 nm to 35 nm, changes the properties of the coating. Ex. 1007, 508. That statement supports sufficiently a preliminary determination that such an increase “changes the invention” (*Rai*, 92 F.4th at 1090) in a manner that

impacts our written description inquiry. *See* Pet. 17 (citing Ex. 1007, 508). The same holds true when moving to the even higher endpoints disclosed in the '867 application, including the upper endpoint of 50 nm in the range from about 1 nm “to about 50 nm.” Prelim. Resp. 11. Where, as here, a “broad described range pertains to a different invention than the narrower (and subsumed) claimed range, then the broader range does not describe the narrower range.” *RAI*, 92 F.4th at 1088 (quoting *Wertheim*, 541 F.2d at 265). Statements made by the applicant during examination indicate the '867 application does not support that the inventors “conceived” or “possessed” the claimed coating limitation by the date on which that application was filed. Prelim. Resp. 12.

iv. Other Considerations

Petitioner argues that the '867 application fails to disclose “the two end values (5 nm and 30 nm)” of the claimed range. Pet. 16. Patent Owner challenges Petitioner’s interpretation of the caselaw cited in support of that assertion. Prelim. Resp. 16–17. Notwithstanding that dispute, on this record, we find Petitioner shows sufficiently that the '867 application does not establish that the inventors, at time that the '867 application was filed, were in possession of the coating thickness ranges of claim 1 or claim 6. *See* Pet. 17 (citing Ex. 1007, 508). Although not determinative on this record, we take note that the '867 application does not disclose the claimed range endpoints specified in claims 1 and 6 and, under the particular circumstances at hand, that circumstance may further support our preliminary determination that the challenged claims are not entitled to claim priority through that application. *RAI*, 92 F.4th at 1091.

In addition, the claimed invention is within the unpredictable chemical arts. Ex. 1001, codes (54), (57), Fig. 1, 1:28–35, 24:8–17; *see In re Fisher*, 427 F.2d 833, 839 (CCPA 1970) (observing, in context of enablement, that “most chemical reactions” involve “unpredictable factors”). That circumstance further supports our preliminary determination that the level of detail in the ’867 application is insufficient to provide written description support for the claimed coating limitation. *See RAI*, 92 F.4th at 1090 (a higher level of detail is required to satisfy the written description requirement in the unpredictable arts).

v. Conclusions on the Priority Date Dispute

For the above reasons, we preliminarily determine that claims 1–12 “are entitled to a filing date of no earlier than September 18, 2015,” and that the ’888 Publication, which was published almost four years earlier, is prior art against those claims. Pet. 18.

We provide that preliminary determination for the sole purpose of deciding whether to institute review. Patent Owner may contest that preliminary determination in a timely response to the Petition. In view of the “highly factual” nature of the written description inquiry, we expressly place both parties on notice that this preliminary determination may be susceptible to change when assessed in view of a full trial record. *RAI*, 92 F.4th at 1091 (quoting *Wertheim*, 541 F.2d at 262). Any final determination shall be based on the full trial record.

b) *Discretionary Denial under Section 325(d)*

Patent Owner raises the two-part test, applicable to discretionary denials under Section 325(d), to argue that the Board should exercise its discretion and deny this ground because (1) the dispute surrounding the

effective filing date of the challenged claims previously was presented to the Examiner during patent prosecution, and (2) Petitioner does not identify a material error by the Examiner. Prelim. Resp. 5–10 (evaluating this issue under the two-part test enunciated in *Advanced Bionics LLC v. Med-el Elektromedicinische Gerate GmbH*, IPR2019-01469, Paper 6 at 7 (PTAB Feb. 13, 2020) (precedential)).

Even if we accept that the Examiner previously considered the effective filing date of claims 1–12, we determine that Petitioner identifies a material error by the Examiner. *Id.* We agree with Petitioner that “the Examiner never questioned the priority claim made by” the applicant during prosecution. Pet. 63. Further, the Examiner did not issue any rejection concerning whether the application that led to the ’564 patent supports the challenged claims. *Id.*; *see id.* at 63 n.20 (citing Ex. 1007, 489).

Against that backdrop, we find Petitioner shows sufficiently that the Examiner materially erred by accepting the applicant’s priority date claim, as shown by our analysis above, and, as a result, materially erred by failing to appreciate the prior art status of the ’888 Publication, which Petitioner has demonstrated by a reasonable likelihood, on this record, anticipates the challenged claims. *Id.* at 63. Accordingly, we do not exercise our discretion to deny review under Section 325(d) with respect to the ground that asserts anticipation by the ’888 Publication.<sup>10</sup>

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<sup>10</sup> Patent Owner also argues, based on Section 325(d), that the Board should exercise its discretion and deny review of the grounds that assert Stowers 2008 and Stowers 2009. Prelim. Resp. 19–21. We do not provide detailed findings on that argument because, even if we were to accept Patent Owner’s position, we would institute review based on the relative strength of the ground that asserts anticipation by the ’888 Publication. *See supra* 7–8



2. *Other Asserted Grounds of Unpatentability*

Having determined that Petitioner meets the threshold showing necessary to support institution of review based on the ground that asserts anticipation by the '888 Publication, we decline to address whether any other ground asserted in the Petition also supports institution. *See* Pet. 3 (grounds chart); *see also SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018) (requiring the Board’s final written decision to address every claim the petitioner presents for review); Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019)<sup>11</sup> (“The Board will not institute on fewer than all claims or all challenges in a petition.”); *see PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (interpreting the relevant statutory provisions, in light of *SAS*, to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

We provide the following remarks as optional guidance to the parties in an effort to promote a streamlined trial.

As explained above, on this preliminary record, we determine that the coating thickness ranges disclosed in the '867 application pertain to “a different invention than” the challenged claims. *RAI*, 92 F.4th at 1090 (quoting *Wertheim*, 541 F.2d at 265). We invite the parties to consider whether, and to what extent, that determination may impact the sufficiency of Petitioner’s showing that any prior art reference asserted in these grounds

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(discussing Petitioner’s arguments, which are not contested on this record, pertaining to that anticipation ground); Pet. 26–33 (detailed mapping of each feature of the claimed invention to disclosures in the '888 Publication).

<sup>11</sup> Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

expressly or inherently discloses the claimed coating limitation. *See* Pet. 38–39, 48–51, 59 (Petitioner’s showing). In addition, the parties may wish to address whether the ultimate conclusion on any ground would change, should the Board determine at trial that claims 1–12 are entitled to a filing date of August 5, 2010, based on the original filing date of the ’867 application.

#### *D. Notices*

The Board shall deem waived any issue not raised by Patent Owner in a timely response to the Petition or as permitted in another manner during trial.

Nothing in this Decision authorizes Petitioner, in a manner not otherwise permitted by the Board’s rules, to supplement the information supporting any ground advanced in the Petition.

#### IV. CONCLUSION

For the above reasons, based on this preliminary record, we determine that Petitioner demonstrates a reasonable likelihood that the subject matter of at least one challenged claim is unpatentable. Accordingly, we institute an *inter partes* review of all challenged claims based on all grounds asserted in the Petition pursuant to 35 U.S.C. § 314(a). *See PGS*, 891 F.3d at 1359–60.

#### V. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–12 of the ’564 patent is hereby instituted based on all grounds set forth in the Petition; and

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FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), an *inter partes* review of claims 1–12 of the '564 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of trial.

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