

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CANADIAN SOLAR INC.,
Petitioner,

v.

MAXEON SOLAR PTE. LTD.,
Patent Owner.

IPR2024-01040
Patent 8,878,053 B2

Before JO-ANNE M. KOKOSKI, JEFFREY W. ABRAHAM, and
AVELYN M. ROSS, *Administrative Patent Judges*.

ROSS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Canadian Solar, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 9–20 of U.S. Patent No. 8,878,053 B2 (Ex. 1001, “the ’053 patent”). Maxeon Solar Pte. Ltd. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 9 (“Prelim. Resp.”). With Board authorization, Petitioner filed a Preliminary Reply (“Prelim. Reply,” Paper 10), and Patent Owner filed a Preliminary Sur-reply (“Prelim. Sur-reply,” Paper 12).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2012); 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.”

For the reasons set forth below, upon considering the Petition, Preliminary Response, Preliminary Reply, Preliminary Sur-reply, and evidence of record, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to at least one challenged claim. Accordingly, we grant the Petition and institute an *inter partes* review.

A. *Real Parties-in-Interest*

Petitioner identifies Canadian Solar Inc. (“CSI”) and Canadian Solar (USA) Inc. as real parties-in-interest. Pet. 3.

Patent Owner identifies itself as the real party-in-interest. Paper 5, 2.

B. Related Proceedings

The parties identify the following legal proceedings as involving the '053 patent:

Maxeon Solar Pte. Ltd. v. Canadian Solar Inc. 2-24-cv-00210 (ED Texas)

Maxeon Solar Pte. Ltd. v. Hanwha Solutions Corp., 2-24-cv-00262 (ED Texas)

Maxeon Solar Pte. Ltd. v. REC Solar Holdings AS, 2-24-cv-00260 (ED Texas)

Pet. 3; Paper 5, 2.

Patent Owner further identifies IPR2024-01199 (U.S. Patent No. 8,878,053) as a related matter. Paper 6, 2.

C. The '053 patent

The '053 patent, titled “Front Contact Solar Cell with Formed Emitter,” issued on November 4, 2018. Ex. 1001, codes (45), (54). The '053 patent discloses “structures for a relatively efficient and cost-effective front contact solar cell and processes for manufacturing [the] same.” Ex. 1001, 1:47–49. The '053 patent explains that a solar cell includes P-type and N-type diffusion regions that form a junction, and metal contacts that allow an external circuit to be coupled to and powered by the solar cell. *Id.* at 1:26–29. In a backside solar cell, both the diffusion regions and the metal contacts coupled to them are on the backside of the solar cell. *Id.* at 1:32–36. In a front contact solar cell, at least one of the metal contacts is on the front side of the solar cell, which is the side that faces the sun to collect solar radiation. *Id.* at 1:37–41. The '053 patent shows one embodiment of its solar cell in Figure 1, reproduced below.

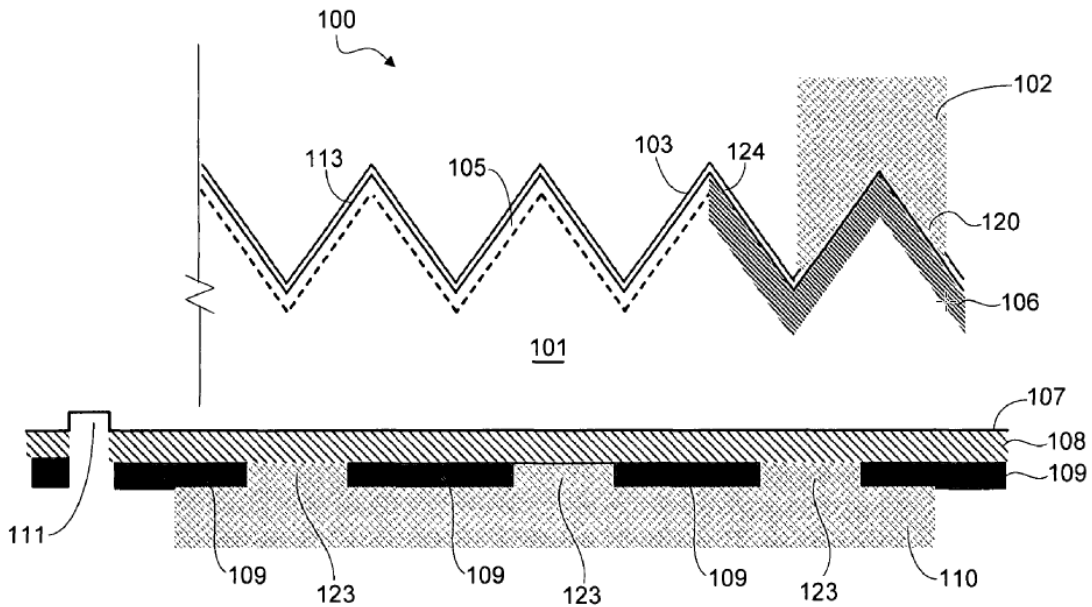


Figure 1 shows a cross-section of front contact solar cell 100 having metal contact 102 on its front side, which faces the sun during normal operation, and metal contact 110 on its backside. Ex. 1001, 2:29–34. Solar cell 100 also includes N-type silicon substrate 101, tunnel oxide layer 107, polysilicon emitter 108, silicone dioxide layer 109, contact holes 123, and edge isolation trench 111. *Id.* at 2:35–39, 2:64–65, 3:6–3:9, 3:30–33. The front side of silicon substrate 101 is randomly textured (labeled as 113) and includes N-type doped regions 105 and 106, contact hole 120, and passivating oxide layer 124. *Id.* at 2:43–45, 2:59–64.

D. Illustrative Claim

Petitioner challenges claims 9–20 of the '053 patent. Independent claims 9 and 16 are representative of the challenged claims and are reproduced below with Petitioner's annotations¹:

¹ For convenience, we adopt Petitioner’s annotated claim format.

[9.a] A method of fabricating a solar cell comprising:

[9.b] forming a layer of polysilicon over a back surface of a silicon substrate;

[9.c] forming a first dopant source layer over the layer of polysilicon;

[9.d] diffusing dopants from the first dopant source layer to the layer of polysilicon to form a backside junction with the silicon substrate;

[9.e] diffusing dopants into a front surface of the silicon substrate, the front surface of the silicon substrate facing the sun during normal operation; and

[9.f] forming a metal contact on the front surface of the silicon substrate, wherein the metal contact is electrically coupled to the silicon substrate.

Ex. 1001, 6:52–67.

[16.a] A method of fabricating a solar cell comprising:

[16.b] forming an oxide layer over a back surface of a silicon substrate;

[16.c] forming a layer of polysilicon over the oxide layer;

[16.d] diffusing dopants into the layer of polysilicon to form a backside junction with the silicon substrate;

[16.e] diffusing dopants into a front surface of the silicon substrate, the front surface of the silicon substrate facing the sun during normal operation; and

[16.f] forming a metal contact on the front surface of the silicon substrate, wherein the metal contact is electrically coupled to the silicon substrate.

Id. at 7:19–8:6.

E. The Asserted Unpatentability Challenges

Petitioner asserts that claims 9–20 would have been unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
9–11, 14, 16–17, 19–20	103	Froitzheim, ² Gan ³
11–13, 15, 18	103	Froitzheim, Gan, Hartiti, ⁴ or

² EP 1732142 A1, published Dec. 13, 2006 (Ex. 1006, “Froitzheim”).

³ J.Y. Gan et al., *Polysilicon Emitters for Silicon Concentrator Solar Cells*, The Conference Record of the Twenty First IEEE Photovoltaic Specialists Conference–1990, Vol. 1, pp. 245–250 (Ex. 1007, “Gan”).

⁴ B. Hartiti et al., *Low Temperature Formation of Emitter and BSF by Rapid Thermal Co-Diffusion of P, Al or B*, 1994 IEEE First World Conference on

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
		Sivoththaman ⁵
9–11, 14, 16–17, 19–20	103	Froitzheim, Kwark ⁶
11–13, 15, 18	103	Froitzheim, Kwark, Hartiti, or Sivoththaman

Pet. 4. Petitioner also relies on declaration testimony of Sanjay Banerjee (Ex. 1003).

II. ANALYSIS

A. Principles of Law

In an *inter partes* review, “the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

Photovoltaic Energy Conversion, Vol. II, pp. 1519–1522 (Ex. 1012, “Hartiti”).

⁵ S. Sivoththaman et al., *Rapid Thermal Processing of Conventionally and Electromagnetically Cast 100 cm² Multicrystalline Silicon*, The Conference Record of the Twenty Fifth IEEE Photovoltaic Specialists Conference–1996, pp. 621–250 (Ex. 1013, “Sivoththaman”).

⁶ Y.H. Kwark et al., *SIPOS Heterojunction Contacts to Silicon*, 1984 International Electron Devices Meeting TECHNICAL DIGEST, 1984, pp. 742–745 (Ex. 1008, “Kwark”).

Obviousness is a question of law based on underlying determinations of fact. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *Richardson-Vicks, Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). A claim is unpatentable as obvious, under 35 U.S.C. § 103, if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness.⁷ *Graham*, 383 U.S. at 17–18. Consideration of the *Graham* factors “helps inform the ultimate obviousness determination.” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc), *cert. denied*, 138 S. Ct. 420 (2017). Subsumed within the *Graham* factors are the requirements that all claim limitations be found in the prior art references and that the skilled artisan would have had a reasonable expectation of success in combining the prior art references to achieve the claimed invention. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007). “Obviousness does not require absolute predictability of success . . . all that is required is a reasonable expectation of success.” *In re O’Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988) (citations omitted). But, a petitioner cannot satisfy its burden of proving obviousness by employing

⁷ Petitioner asserts that the objective factors in the record support a conclusion of obviousness. Pet. 66. Patent Owner, at this time, does not address objective indicia of nonobviousness. *See generally* Prelim. Resp.

“mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention. *Graham*, 383 U.S. at 17.

Petitioner contends that a person of ordinary skill in the art would have been someone with an advanced degree involving the discipline of electrical engineering, applied physics, chemistry, or materials science, and at least two years of experience designing, developing, or researching in the field. Alternatively, that person would have had a bachelor’s degree in electrical engineering, applied physics, or materials science, and at least three years of experience designing, developing, or researching in the field.

Pet. 4 (citing Ex. 1003 ¶45).

Patent Owner also states that “[f]or purposes of this Preliminary Response, [Patent Owner] applies [Petitioner’s] level of ordinary skill.” Prelim. Resp. 8.

In light of the record before us, and for purposes of this Decision, we adopt Petitioner’s proposal regarding the level of ordinary skill in the art. Based on our review of the ’053 patent and the prior art of record, we determine that the definition offered by Petitioner comports with the qualifications a person would have needed to understand the ’053 patent and the prior art. We will make any final determination pertaining to the level of ordinary skill in the art, however, on the full trial record.

C. Claim Construction

We construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc); 37 C.F.R. § 42.100(b). Under *Phillips*, we give claim terms “their ordinary and customary meaning.” *Phillips*, 415 F.3d at 1312. “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313. “Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Petitioner contends that “the term ‘in situ’ in dependent claim 15 is appropriate for construction because it is defined in the 053 Patent.” Pet. 20. In particular, Petitioner argues that

“in situ” refers to processing that occurs after a single manual loading of the substrate into a furnace or other single chamber or multi-chamber processing tool. EX1003, ¶157. Therefore, in the context of claim 15’s diffusion steps, the single, simultaneous drive-in/diffusion of the front and back dopants would constitute “in situ” steps that satisfy the claim.

Id. at 56–57 (citing Ex. 1003 ¶ 157); *see* Ex. 1001, 5:9–18.

Patent Owner contends that “[b]ecause this term is in a dependent claim, construction is not necessary to resolve the issues presented at institution.” Prelim. Resp. 4–8.

For purposes of this Decision, we need not expressly construe any claim terms. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the

controversy”); *see also* *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

*D. Discretion Under 35 U.S.C. § 314(a)*⁸

We have discretion to deny a petition for *inter partes* review under § 314(a). *See* 35 U.S.C. § 314(a) (stating “[t]he Director may not authorize an *inter partes* review to be instituted unless”); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“First of all, the PTO is permitted, but never compelled, to institute an [inter partes review] proceeding.” (citing 35 U.S.C. § 314(a))). “[E]vents in other proceedings related to the same patent, either at the Office, in district courts, or the ITC,” may favor “denying a petition even though some claims meet the threshold standards for institution under 35 U.S.C. §§ 314(a).” Consolidated Trial Practice Guide (“Practice Guide”)⁹ at 58 n.2 (citing *NHK Spring Co., Ltd. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 11–21 (PTAB Sept. 12, 2018) (precedential) (footnote omitted)). In weighing whether to exercise discretion, we balance, *inter alia*, the following factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;

⁸ Petitioner also preemptively argues that the Board “should not deny institution based on Section 325(d) because none of the obviousness combinations or references relied on here were presented during the 053 prosecution.” Pet. 17–18. Because Patent Owner does not address the applicability of § 325(d) (*see generally* Prelim. Resp.), we do not consider whether § 325(d) applies.

⁹ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Apple Inc. v. Fintiv, IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020).

“These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* In evaluating these factors, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* (citing Practice Guide 58).

Patent Owner argues the Board should exercise its discretion and deny the Petition under 35 U.S.C. § 314(a). Prelim. Resp. 29. Patent Owner argues that “balancing these six factors . . . demonstrates that efficiency and integrity of the America Invents Act are best served by denying institution of this Petition as each factor is either neutral or weighs in favor of denial. *Id.* at 30.

We address the application of the *Fintiv* factors below.

1. *whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted*

The first *Fintiv* factor requires consideration of whether the district court has stayed or will stay the proceeding pending *inter partes* review. “A district court stay of the litigation pending resolution of the PTAB trial

allays concerns about inefficiency and duplication of efforts.” *See Fintiv*, Paper 11 at 6. Where a stay has been entered, we weigh this factor strongly against exercising discretion to deny instituting review. *Id.*

Here, neither party has filed a motion to stay. Petitioner contends that Judge Gilstrap, the presiding judge in the district court litigation, “is likely to grant a stay” (Prelim. Reply 1; Pet. 18), and Patent Owner disagrees (Prelim. Resp. 30–33, Prelim. Sur-reply 1–2). Each party offers data regarding the number of stays granted and denied by Judge Gilstrap in support of their speculation about how Judge Gilstrap would rule on a motion to stay should one be filed, and each party disagrees with the opposing party’s data and analysis. Pet. 18; Prelim. Reply 2; Prelim. Resp. 30–33; Prelim. Sur-reply 1–2.

We, however, decline to speculate on how Judge Gilstrap may rule on a future motion for a stay should one be filed. Accordingly, in view of the fact that no motion for a stay has been filed, we determine that *Fintiv* factor 1 is neutral.

2. *proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision*

Under the second *Fintiv* factor, “[i]f the [district] court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising authority to deny institution.” *See Fintiv*, Paper 11 at 9.

Trial for the parallel district court litigation is scheduled for January 26, 2026, which is twelve days after the due date for a Final Written Decision in this proceeding. Prelim. Resp. 33. Patent Owner acknowledges that the median time-to-trial data for the Eastern District of Texas is consistent with the current trial date. *Id.* at 34.

Petitioner argues that factor 2 weighs against exercising our discretion to deny because the projected date for the Final Written Decision is earlier than the scheduled trial date. Prelim. Reply 3 (citing *See* USPTO Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, 9 (June 21, 2022) (“Guidance Memorandum”)).¹⁰ Patent Owner contends that factor 2 is neutral “[g]iven the close proximity between the district court’s trial date and the projected deadline for the PTAB’s Final Written Decision.” Prelim. Resp. 34; *see also* Prelim. Sur-reply 3 (arguing factor 2 is neutral because the trial date is “at or around the same time” as the projected statutory deadline for a final written decision).

The Guidance Memorandum states that “[t]he PTAB will weigh this factor against exercising discretion to deny institution under *Fintiv* if the median time-to-trial is . . . after the projected statutory deadline for the PTAB’s final written decision.” Guidance Memorandum at 9. Because the evidence demonstrates that the trial date, supported by the median time-to-trial data, is after the projected deadline for the Final Written Decision, we determine that *Fintiv* factor 2 weighs against exercising our authority to deny institution.

3. *investment in the parallel proceeding by the court and the parties*

Under this factor, we first consider Petitioner’s timing in filing the Petition. If a petitioner, “faced with the prospect of a looming trial date, waits until the district court trial has progressed significantly before filing a

¹⁰ The Interim Procedure is available under the “Guidance Memorandum” heading on the “Resources and guidance” page for the Patent Trial and Appeal Board, located at <https://www.uspto.gov/patents/ptab/resources>.

petition,” that decision “may impose unfair costs to a patent owner.” *Fintiv*, Paper 11 at 11. On the other hand, “[i]f the evidence shows that the petitioner filed the petition expeditiously, such as promptly after becoming aware of the claims being asserted, this fact has weighed against exercising the authority to deny institution.” *Id.* We then consider “the amount and type of work already completed in the parallel litigation by the [district] court and the parties at the time of the institution decision. Specifically, if at the time of the institution decision, the district court has issued substantive orders related to the patent at issue in the petition, this fact favors denial.” *See Fintiv*, Paper 11 at 9–10 (footnote omitted). Thus, the more advanced the parallel proceeding, the less likely we are to institute an *inter partes* review. *Id.* at 10.

Petitioner argues that “[b]y the time an institution decision will be made, little or no substantive proceedings will have occurred in the parallel litigation.” Pet. 19. Patent Owner contends the parties have spent “considerable resources” in the district court action, including exchanging infringement and invalidity contentions, discovery requests, and substantial document productions. Prelim. Resp. 35. Patent Owner contends that “the investment in the district court remains similar to that in *Sand Revolution II, LLC v. Continental Intermodal Group — Trucking LLC*,^[11] where *Fintiv* factor three did not weigh against exercising discretion to deny institution.” Prelim. Sur-reply 3–4.

¹¹ *Sand Revolution II, LLC v. Continental Intermodal Group — Trucking LLC*, IPR2019-01393, Paper 24 (PTAB June 16, 2020) (informative) (“*Sand Revolution*”).

We disagree with Patent Owner. In *Sand Revolution*, the district court conducted a *Markman* hearing and entered a related order. *Sand Revolution*, Paper 24 at 10. Here, the Markman hearing is not scheduled to occur for several months. And although the parties have invested some resources, much work remains to be done in the district court case. The district court litigation appears to be in an early stage, there is no evidence that the district court has issued any substantive orders related to the '053 patent or the prior art set forth in the Petition, and there is evidence that Petitioner filed its Petition expeditiously. Pet. Reply 1–2; *see Fintiv*, Paper 11 at 9–11. Thus, we determine that *Fintiv* factor 3 weighs against exercising our authority to deny institution.

4. *overlap between issues raised in the petition and in the parallel proceeding*

The fourth *Fintiv* factor requires consideration of “inefficiency and the possibility of conflicting decisions.” *See Fintiv*, Paper 11 at 12. Therefore, “if the petition includes the same or substantially the same claims, grounds, arguments, and evidence, as presented in the parallel proceeding, this fact has favored denial.” *Id.* (footnote omitted). The *Fintiv* panel acknowledged that “the degree of overlap is highly fact dependent” and encouraged the parties to “indicate whether all or some of the claims challenged in the petition are also at issue in [the] district court.” *Id.* at 13. This concern, however, may be mitigated where a petitioner agrees not to pursue in the parallel district court litigation the grounds advanced in the petition. *Sand Revolution*, Paper 24 at 11. The breadth of the stipulation affects the weight given in the discretionary denial analysis. For example, a petitioner stipulating not to pursue the “same grounds” presented in a petition only *marginally* favors not exercising our discretion to deny

institution where a petitioner stipulating not to pursue “any ground raised or that could have been raised” weighs *strongly* in favor of not exercising discretionary denial. *Id.* at 11–12; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR 2020-01019, Paper 12 at 18–19 (PTAB December 1, 2020) (precedential as to § II.A) (“*Sotera*”).

Petitioner contends this factor favors institution because it stipulates “it will not assert in any district court or ITC litigation that any claim at issue in this IPR is invalid on the basis of any ground raised or reasonably could have been raised during this IPR.” Pet. 19.

Patent Owner argues that Petitioner asserts the same grounds in the Petition that it asserts in the district court action, and this overlap is “mitigated only slightly” by Petitioner’s stipulation. Prelim. Resp. 36–39. Patent Owner contends Petitioner’s stipulation is not a *Sotera*¹²-type stipulation, because it leaves open the possibility that Petitioner could add to the district court action grounds that it reasonably could have asserted in the Petition with respect to claims not at issue in the IPR. Prelim. Resp. 38–40.

Although the parties dispute whether Petitioner’s stipulation is a *Sotera*-type stipulation, there is no dispute that the stipulation does mitigate, at least to some extent, concerns of potentially conflicting decisions. Prelim. Reply 4–5; Prelim. Resp. 58; *see Sand Revolution*, Paper 24 at 12. Accordingly, we determine that *Fintiv* factor 4 weighs against exercising our authority to deny institution.

¹² *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (precedential) (“*Sotera*”).

5. *whether the petitioner and the defendant in the parallel proceeding are the same party*

According to the fifth *Fintiv* factor, “[i]f a petitioner is unrelated to a defendant in an earlier [district] court proceeding, the Board has weighed this fact against exercising discretion to deny institution.” *See Fintiv*, Paper 11 at 13–14.

When the petitioner and the defendant in the parallel proceeding are the same, this tends to support discretionary denial. *See Sotera* at 19. Based on the present record, we consider *Fintiv* factor 5 to favor discretionary denial.

6. *other circumstances that impact the Board’s exercise of discretion, including the merits*

Lastly, “all the relevant circumstances,” including the merits, are considered in assessing whether to exercise discretion to deny institution of *inter partes* review. *Fintiv*, Paper 11 at 14. “[A]ll the relevant circumstances” may include the merits of Petitioner’s underlying challenges. *Id.* at 14–15.

For example, if the merits of a ground raised in the petition seem particularly strong on the preliminary record, this fact has favored institution. In such cases, the institution of a trial may serve the interest of overall system efficiency and integrity because it allows the proceeding to continue in the event that the parallel proceeding settles or fails to resolve the patentability question presented in the PTAB proceeding.

Id. (footnotes omitted).

The Director has instructed “PTAB panels to only consider compelling merits if they first determined that *Fintiv* factors 1–5 favored a discretionary denial.” *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4–5 (PTAB Feb. 27, 2023) (decision on

Director review) (precedential). Here, we determine that *Fintiv* factor 1 is neutral, factors 2 through 4 all weigh against exercising our discretion to deny institution, and factor 5 weighs in favor of discretionary denial. Accordingly, when considered in combination, *Fintiv* factors 1–5 do not favor discretionary denial, and we do not consider the question of compelling merits.

7. *summary*

We consider the above factors and take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Fintiv*, Paper 11 at 6; Guidance Memorandum. On this record, after weighing all of the factors and taking a holistic view, we determine that the facts presented weigh against exercising our discretion to deny institution under 35 U.S.C. § 314(a).

E. Challenges Based on Froitzheim and Gan

Petitioner alleges that claims 9–11, 14, 16–17 and 19–20 of the ’053 patent would have been obvious over the combination of Froitzheim and Gan. Pet. 4, 28–46. In addition, Petitioner contends that claims 11–13, 15, and 18 of the ’053 patent would have been obvious over the combination of Froitzheim and Gan in further view of either Hartiti or Sivoththaman. Pet. 4, 47–58.

1. *Overview of Froitzheim (Ex. 1006)*

Froitzheim is directed to solar cells and a method of manufacturing solar cells that addresses light induced degradation of boron doped base layers in solar cells. Ex. 1006 ¶¶ 1, 3. Froitzheim discloses a solar cell comprising an Si layer of n-type bulk doping having a front side and a rear side, a non-alloyed p-type doped region at the rear side of the body layer and

forming a p/n-junction with the rear side, a rear side contact in electrical connection with the p-type doped region, and a front side contact in electrical connection with the n-type silicon body layer. *Id.* at ¶ 10. According to Froitzheim, “the use of n-type Si as [the] body layer overcomes the degradation problem of conventional solar cells with a boron doped body layer.” Ex. 1006 ¶ 13. Froitzheim also teaches that “etching can be used to texture the surface in order to improve the geometry of incidence of light in order to prevent reflection.” *Id.* ¶ 39.

2. *Overview of Gan (Ex. 1007)*

Gan is directed to a study of polysilicon emitters with a thermally grown interfacial oxide layer. Ex. 1007, 245. Gan explains that the oxide is not thermally stable, and “tends to break up during high temperature anneals,” which has a “direct impact on both majority and minority carrier transport in the polysilicon emitter.” *Id.* Gan was interested in the performance of polysilicon emitters “when only a small fraction of the interfacial oxide is broken,” and determined that “the cell performance can be improved” under certain circumstances. *Id.* Gan concluded that polysilicon emitters with improved performance “can be obtained with a very small fraction of interfacial oxide breakup,” and that “polysilicon emitters with these qualities can be quite useful for silicon concentrator solar cells.” *Id.* at 249.

3. *Analysis of Claim 9*

Petitioner alleges that the combination of Froitzheim and Gan renders claim 9 of the '053 patent obvious. Pet. 35–42. Petitioner contends that Froitzheim describes each of the limitations of claim 9 except for the polysilicon emitter. According to Petitioner, Froitzheim describes a method

of fabricating a solar cell that includes forming a back-side diffused p-type emitter, forming a front surface field or doped region on the substrate by diffusing phosphorus into the front surface, and screen printing front and rear silver-containing electrical contacts. *Id.* at 35–40 (citing Ex. 1006 ¶¶ 15, 28, 32, 40, 44, 48–49, 60, 116–120, Fig. 1, Abstr.; Ex. 1003 ¶¶ 106–108, 110–113, 114–115, 117–120). Petitioner acknowledges that Froitzheim does not describe a back surface polysilicon layer but proposes replacing the “backside diffused p-type emitter of Froitzheim . . . with a polysilicon emitter, as taught by Gan.” *Id.* at 35 (citing Ex. 1007, 245; Ex. 1003 ¶ 107). Petitioner alleges that “[i]n the Froitzheim/Gan combination, the replaced polysilicon layer would be doped, as taught by Froitzheim and Gan, by first forming a diffusion source layer and diffusing the dopant from that layer into the polysilicon layer.” *Id.* (citing Ex. 1006 ¶¶ 40–41; Ex. 1007, 246). Petitioner, through testimony of Dr. Banerjee, alleges that

the Skilled Artisan would understand that the “doped glass deposition” step in Gan deposits a “*first dopant source layer*” on the backside polysilicon and the “drive in” step would diffuse the dopant from the “doped glass” layer into the polysilicon layer at high temperature in step 10. EX1003, ¶110. It was well known that the term dopant “drive in” is synonymous with dopant diffusion in solar cell manufacturing.

Id. at 37.

Petitioner asserts that a person of ordinary skill in the art “would have been motivated to replace Froitzheim’s diffused emitter with a deposited polysilicon emitter along with an oxide layer because Gan taught and suggested that this modification would be an improvement.” *Id.* at 29 (Ex. 1003 ¶ 95). Gan teaches that “the cell performance can be improved if the diffused emitter [e.g., of Froitzheim] is replaced with the polysilicon emitter” and that “the J_0 [i.e., measure of surface recombination] of the p-

type polysilicon emitter (Fig 5) [beneficially] appears to be much lower than what has been previously reported,” which Gan attributes to the thermal oxide interfacial layer. *Id.* at 29–30 (quoting Ex. 1007, 245, 248); *see also* Ex. 1007, 249 (“polysilicon emitters with these qualities can be quite useful for silicon concentrator solar cells”). Petitioner also argues that the skilled artisan would have had a reasonable expectation of success because the combination is simply

an arrangement of old elements (and their corresponding fabrication steps) with each performing the same function it had been known to perform (the emitter of Froitzheim continuing to act as an emitter, but modified to be of a polysilicon material with an interfacial oxide layer in between it and the substrate) and yielding no more than what one would expect from such an arrangement.

Pet. 33 (citing Ex. 1003 ¶ 102).

Patent Owner, at this time, does not challenge many of Petitioner’s allegations regarding the teachings of Froitzheim and Gan. *See generally* Prelim. Resp. Instead, Patent Owner argues that Petitioner “fails to meet its burden to show that a Skilled Artisan would have had a reasonable expectation of success in combining Gan with Froitzheim in the manner [Petitioner] contends to arrive at the claimed invention.” Prelim. Resp. 12.¹³ Specifically, Patent Owner contends that Petitioner’s argument regarding

¹³ Patent Owner also contends that “claim 9 does not include the oxide layer [y]et [Petitioner’s] obviousness theory . . . is premised on the contention that a ‘Skilled Artisan would have replaced the p-type *diffused* in-substrate emitter of Froitzheim with a p-type deposited *polysilicon* emitter and interfacial oxide layer, as taught by Gan.’” Prelim. Resp. 12–13. Patent Owner does not explain the relevance of this contention.

reasonable expectation of success is contradicted *by another* Gan reference—the Gan Thesis.¹⁴ According to Patent Owner the

Gan Thesis catalogs a variety of failures, including “non-reliable oxide-growth recipe [giving] rise to the mishap of [their] solar-cell runs” and that thickness variations may have resulted from oxidation proceeding at unexpected times (e.g., “when the furnace was still at the ramp-up stage” or during a “stand-by period” prior to the polysilicon deposition step).

Id. at 13–14 (citing Ex. 2003, 111–12). Patent Owner reasons that because the Gan Thesis “provides no assurances that a consistent oxide layer thickness could be achieved and instead suggests ‘a more reliable way of growing the thin oxide is needed,’ a Skilled Artisan would not have understood substituting Gan’s oxide layer into Froitzheim’s solar cell to be a ‘simple substitution’ yielding predictable results.” *Id.* at 14 (citing Ex. 2003, 119).

On this record, Patent Owner’s arguments are unpersuasive. As an initial matter, Patent Owner has not made a sufficient showing, much less even alleged, that the Gan Thesis was publicly available at the time of invention. A person of ordinary skill in the art is presumed to know the teachings of “all the prior art in the field of his endeavor” at the time the invention was made. *Airbus S.A.S. v. Firepass Corporation*, 941 F.3d 1374, 1380 (Fed. Cir. 2019) (quoting *In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979)). A reference is considered publicly accessible only if it was “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.” *Kyocera Wireless Corp. v. Int’l Trade*

¹⁴ Jon-Yiew Gan, Polysilicon Emitters for Silicon Concentrator Solar Cells (July, 1990) (Ph.D. dissertation, Stanford University) (“the Gan Thesis”).

Comm’n, 545 F.3d 1340, 1350 (Fed. Cir. 2008) (quoting *SRI Int’l, Inc. v. Internet Sec. Sys. Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008)). At best, Patent Owner presents some evidence that the Gan Thesis may be publicly available but no evidence to suggest *when* the Gan Thesis became publicly available.

For example, the Gan Thesis states that it was “submitted to the Department of Materials Science and Engineering and the Committee on Graduate Studies of Stanford University in partial fulfillment of the requirements for the degree of Doctor of Philosophy,” and bears a date of “July 1990.” Ex. 2003, 5. The Gan Thesis also bears a copyright notice “Copyright 1990, by Jon-Yiew Gan.” *Id.* at 6. The Gan Thesis also suggests that it has been reproduced by University Microfilms International (UMI) and has an “order number 9108821.” *Id.* at 1, 3. The copyright date of 1990 suggests that the document existed as of 1990, but does not indicate when the document became accessible to persons of ordinary skill in the art. This is because a copyright notice *may* be evidence of publication,¹⁵ but generally such a notice does not “establish when a document was publicly accessible under patent law.” *Stryker Corp. v. Karl Storz Endoscopy-Am., Inc.*, IPR2015-00677, Paper 15 at 18–19 (PTAB Sept. 2, 2015); *see also Microsoft Corp. v. Corel Software, LLC*, IPR2016-01083, Paper 14 at 13–14 (PTAB Dec. 1, 2016) (“The copyright notice, alone, however, sheds virtually no light on whether the document was publicly accessible as of that date, therefore additional evidence is typically necessary to support a

¹⁵ “Whenever a work protected under this title is published in the United States . . . a notice of copyright . . . *may* be placed on publicly distributed copies from which the work can be visually perceived.” 17 U.S.C. § 401(a) (emphasis added).

showing of public accessibility.”). Furthermore, reproduction by UMI, without more, does not indicate when the Gan Thesis was received, published, or made accessible to the public.

Next, assuming that the Gan Thesis would have been known to the skilled artisan at the time of invention, we are persuaded, on this record, that Petitioner has adequately shown a reasonable expectation of success in its proffered combination of Froitzheim and Gan. Petitioner explains that the combination of Froitzheim and Gan simply replaces one emitter for the polysilicon emitter of Gan. Pet. 33. According to Petitioner,

before introducing the boron dopant by diffusion at the rear side of the substrate (for example, as described in ¶40-41 of Froitzheim), the Skilled Artisan would perform Gan’s steps of growing a thin thermal oxide to form the interfacial layer followed by polysilicon deposition to form the polysilicon on the oxide layer on the back side of the wafer, after which the polysilicon would be doped instead of the substrate to form the polysilicon emitter.

Id. at 33–34 (citing Ex. 1003 ¶ 103, Ex. 1007, 246). Petitioner, through the testimony of Dr. Banerjee, states that “[c]ombining Froitzheim/Gan as described here would have been well within the level of ordinary skill in the art” (Ex. 1003 ¶ 108) and would “have been the combination of well-known prior art steps in solar cell fabrication to yield predictable results” (*id.* ¶ 109). We are persuaded that Petitioner has demonstrated sufficiently, for purposes of institution, that a person of ordinary skill in the art would have had an expectation of success in combining Froitzheim and Gan.

Patent Owner’s arguments that Petitioner’s contentions are expressly contradicted by the Gan Thesis are not persuasive on this preliminary record. Prelim. Resp. 13. Specifically, Patent Owner contends that the oxide-growth under the Gan method is unreliable, can result in a variation in oxide

thicknesses, and that the Gan Thesis “provides no assurances that a consistent oxide layer thickness could be achieved.” *Id.* at 13–15. However, under the proper inquiry, “obviousness cannot be avoided simply by a showing of some degree of unpredictability in the art so long as there was a reasonable probability of success.” *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364 (Fed. Cir. 2007). Patent Owner appears to argue for a heightened standard. Next, Patent Owner directs us to evidence from the Gan Thesis, *not* Gan itself. Prelim. Resp. 13–15 (citing Ex. 2003). And lastly, though the Gan Thesis acknowledges inconsistent oxide growth during “ramp-up” and “stand-by” periods, the Gan Thesis also explains that “it is possible that the thin-oxide growth can be improved by performing the oxidation at lower temperatures such that the oxidation rate can be controlled more precisely.” Ex. 2003, 112.

Accordingly, we are persuaded that Petitioner has shown sufficiently at this stage of the proceeding that an ordinarily skilled artisan would have had a reasonable expectation of success in the combination of Froitzheim and Gan.

4. *Remaining Claims 10–20*

Petitioner asserts that claims 10, 11, 14, 16–17 and 19–20 would have been obvious over the combination of Froitzheim and Gan and that that claims 11–13, 15, and 18 would have been obvious over the combination of Froitzheim and Gan with either of either Hartiti or Sivoththaman. Pet. 4, 42–57. Patent Owner does not separately address remaining claims 10–20 beyond what is argued for independent claim 9. *See generally* Prelim. Resp. Having determined that Petitioner satisfies the threshold showing under 35 U.S.C. § 314(a) for institution of trial with respect to at least one challenged

claim of the '053 patent, we order that trial shall proceed on all claims and all challenged grounds. *SAS Institute Inc. v. Iancu*, 584 U.S. 357, 360–361 (2018).

F. Challenges Based on Froitzheim and Kwark

Petitioner alleges that claims 9–11, 14, 16–17, and 19–20 of the '053 patent would have been obvious over the combination of Froitzheim and Kwark. Pet. 4, 57–64. In addition, Petitioner contends that claims 11–13, 15, and 18 of the '053 patent would have been obvious over the combination of Froitzheim and Kwark in further view of either Hartiti or Sivoththaman. Pet. 4, 64–65.

1. Overview of Kwark (Ex. 1008)

Kwark describes tests on polysilicon films with and without a chemically grown oxide layer (referred to as “chemox”). Kwark explains that reducing the emitter saturation current (J_{oc}) “translates into potential improvements of energy conversion efficiency for solar cells and enhanced high frequency performance of bipolar structures.” Ex. 1008, 742. Kwark determined from its tests for polysilicon emitters, the absence of chemox does not “greatly impact J_{oc} ,” but the addition of the chemox “greatly decreases the J_{oc} .” *Id.* at 743, Figure 4.

2. Analysis of Claim 9

Petitioner alleges that the combination of Froitzheim and Kwark renders claim 9 of the '053 patent obvious. Pet. 61–62. Petitioner contends that Froitzheim describes each of the limitations of claim 9 except for the polysilicon emitter and relies on the same teachings of Froitzheim detailed for the grounds based on Froitzheim and Gan, discussed above. *Id.*

According to Petitioner “in the Froitzheim/Kwark combination, the backside diffused p-type emitter of Froitzheim is replaced with a polysilicon emitter, as taught by Kwark.” Pet.61 (citing Ex. 1003 ¶ 167).

Petitioner, through testimony of Dr. Banerjee, alleges that the Skilled Artisan would have been motivated to modify Froitzheim’s emitter to be a polysilicon emitter with an oxide layer because Kwark taught and suggested that this modification would be an improvement transferable to solar cells. EX1003, ¶ [166]. Kwark taught that addition of an interfacial chemically grown oxide (chemox) between polysilicon and the substrate “greatly decreases the J_{oe} ,” which “translates into potential improvements of energy conversion efficiency for solar cells.” *Id.* at 58 (citing Ex. 1003 ¶ 162; Ex. 1008, 742, 745).

Petitioner asserts that Kwark’s “data comparing polysilicon emitters with and without the oxide layer, . . . note[s] ‘the large difference when the interfacial oxide is missing.’” *Id.* at 59 (citing Ex. 1008, 745, Fig. 4). Petitioner also argues that the skilled artisan would have had a reasonable expectation of success because the combination is

merely an arrangement of old method steps with each performing the same function it had been known to perform (the emitter of Froitzheim continuing to act as an emitter, but modified to be polysilicon with an interfacial oxide) and yielding no more than what one would expect from such an arrangement (a solar cell with improved performance). *Id.* at 60 (citing Ex. 1003 ¶ 164). Petitioner alleges that the combination of Froitzheim and Kwark would have been within the skillset of the ordinarily skilled artisan and “substituting Froitzheim’s in-substrate diffused emitter with a polysilicon emitter and oxide layer would be simple substitution of one known element for another to obtain predictable results” and “use[s] a known technique (polysilicon emitters with an oxide layer) to improve similar devices (Froitzheim’s solar cell) in the same way.” *Id.*

Patent Owner, at this time, does not challenge many of Petitioner's allegations regarding the teachings of Froitzheim and Kwark. *See generally* Prelim. Resp. Instead, Patent Owner argues that Petitioner "fails to meet its burden to show that a Skilled Artisan would have been motivated to combine Kwark with Froitzheim to arrive at the claimed invention, and that they would have had a reasonable expectation of success in doing so.

Prelim. Resp. 15. We address Patent Owner's arguments below.

a) Whether Petitioner has shown a reason to combine the teachings of Froitzheim and Kwark

Patent Owner argues that no reason to combine exists because "Kwark does not teach that 'modify[ing] Froitzheim's emitter [(i.e., a diffused in-substrate emitter)] to be a polysilicon emitter with an oxide layer' 'would be an improvement.'" Prelim. Resp. 16–17 (citing Pet. 58). Instead, Patent Owner contends that "Kwark makes no mention of diffused in-substrate emitters at all, let alone suggesting any improvement thereto" and further that "Kwark only analyzed polysilicon emitters to test its hypothesis that 'lower oxygen content SIPOS^[16] films' could be used." *Id.* at 17 (citing Ex. 1008, 742). Patent Owner states that Petitioner "incorrectly attributes the 'potential improvements' and 'good results' that Kwark found for SIPOS emitter contacts to a polysilicon emitter." *Id.*

On this record, we disagree with Patent Owner. Kwark describes experiments involving varying γ , which represents "the ratio of nitrous oxide to silane in the deposition ambient" in emitter layer films. Ex. 1008, 742. Kwark states that a γ value of 0 "should produce POLY," i.e., a polysilicon emitter, and that $\gamma=0$ films produced "good results." *Id.* Accordingly,

¹⁶ Kwark defines "SIPOS" as " SiO_x , $x < 2$ ".

Kwark at least suggests that using a pure polysilicon emitter produced “good results,” consistent with Petitioner’s arguments. *Id.*

Therefore, on this record, Petitioner has sufficiently shown a reason to combine the teachings of Froitzheim and Kwark.

b) Whether Petitioner has shown a reasonable expectation of success in the combination of Froitzheim and Kwark

Patent Owner argues that “Gan teaches that Kwark’s chemox layer break[s] down after high temperature annealing.” Prelim. Resp. 20 (citing Ex. 1007, 245). Specifically, Patent Owner alleges that the “Gan Thesis specifically looked at Figure 4 from Kwark (Figure 3.6 in Gan Thesis) and explained how Kwark’s findings were consistent with its own, namely, that ‘[t]he rapid increase of J_0 upon the anneal temperature is due to the breakup of the interfacial oxide.’” *Id.* (citing Ex. 2003 ¶¶ 33–34, Fig. 3.6).

According to Patent Owner, the “Gan Thesis found ‘that the interface quality of the chemical oxide [(the process disclosed in Kwark)] is not good enough to make the p-type polysilicon SIS emitter with low J_0 ’” and therefore, a person of skill in the art would not have had a reasonable expectation of success in the combination of Froitzheim and Kwark. *Id.* at 21 (citing Ex. 2003, 70–71, 78).¹⁷

Once again, on this record, we disagree with Patent Owner’s conclusion. Although Figure 4 in Kwark may show higher temperature annealing reduces the effects of an oxide layer, it appears to suggest that

¹⁷ Patent Owner again presents arguments based on the Gan Thesis. We, however, decline to address these arguments for the same reason discussed above, namely Patent Owner’s failure to demonstrate the teachings of the Gan Thesis were publicly available to a person of ordinary skill in the art at the time of the invention.

polysilicon emitters with an oxide layer (“with Chemox”) still show improved performance (i.e., lower J_{0e} values) over polysilicon emitters without an oxide layer (“No Chemox”). Ex. 1008, Fig. 4. Additionally, to the extent Gan’s teachings are relevant to this challenge, despite Gan’s data showing the effect of annealing temperature on the oxide layer, Gan states that “the cell performance can be improved if the diffused-emitter is replaced with the polysilicon emitter” and “polysilicon emitters . . . with a very small fraction of interfacial oxide breakup” can be obtained. Ex. 1007, 245, 249.

Accordingly, on this record, we are persuaded by Petitioner’s arguments and evidence, and determine that Petitioner has demonstrated sufficiently for purposes of this Decision that a person of ordinary skill in the art would have had a reason to combine the teachings of Froitzheim and Kwark, and would have had a reasonable expectation of success in achieving the claimed invention.

3. *Remaining Claims 10–20*

Petitioner asserts that claims 10, 11, 14, 16–17, and 19–20 would have been obvious over the combination of Froitzheim and Kwark and that that claims 11–13, 15, and 18 would have been obvious over the combination of Froitzheim and Kwark with either of Hartiti or Sivoththaman. Pet. 4, 61–65. Patent Owner does not separately address remaining claims 10–20 beyond what is argued for independent claim 9. *See generally* Prelim. Resp. Having determined that Petitioner satisfies the threshold showing under 35 U.S.C. § 314(a) for institution of trial with respect to at least one challenged claim of the ’053 patent, we order that trial shall proceed on all claims and all challenged grounds. *SAS*, 584 U.S. at 360–361.

G. Prior Decisions

Petitioner contends that prior Board decisions involving two continuation applications—App. No. 14/504,771 and 16/460,035, both of which claim priority to the '053 patent—support a finding of obviousness in this *inter partes* review. Pet. 67–70. In particular, Petitioner asserts that Patent Owner's argument "that it would not be obvious to modify a back junction solar cell with a polysilicon emitter with an interfacial oxide layer," "has already been rejected by the PTAB in prior appeal proceedings." *Id.* at 67.

Patent Owner argues that "[t]he Board's prior findings . . . have no bearing on this proceeding." Prelim. Resp. 22. Specifically, Patent Owner argues that Petitioner does not suggest collateral estoppel applies, that "none of the [prior art] combinations asserted here . . . were at issue in the *ex parte* appeal decisions" identified by Petitioner, and that Petitioner "retains the burden *in this proceeding*, regardless of what the Board found in prior proceedings." *Id.* at 22–23.

Because we determine that Petitioner has established a reasonable likelihood that claims 9–20 are invalid as obvious based on the arguments presented at pages 28–66 of the Petition, a determination that prior Board decisions support a finding of obviousness is unnecessary and moot.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we institute an *inter partes* review of the '053 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 9–20 of U.S. Patent No. 8,878,053 B2 is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which will commence on the entry date of this Decision.

IPR2024-01040
Patent 8,878,053 B2

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