

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CANADIAN SOLAR INC.,
Petitioner,

v.

MAXEON SOLAR PTE., LTD.,
Patent Owner.

IPR2024-01039
Patent 8,222,516 B2

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

ABRAHAM, *Administrative Patent Judge*.

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

I. INTRODUCTION

Canadian Solar, Inc., (“Petitioner”) filed a Petition requesting *inter partes* review of claims 9–12 of U.S. Patent No. 8,222,516 B2 (Ex. 1001, “the ’516 patent”). Paper 2 (“Pet.”). Maxeon Solar PTE., Ltd. (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 9 (“Prelim. Resp.”)). With authorization, Petitioner filed a Preliminary Reply to the Petition (Paper 10, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-reply to Petitioner’s Reply (Paper 12, “Prelim. Sur-reply”).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2023). 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 1 of the claims challenged in the petition.”

Having considered the arguments and evidence set forth by Petitioner and Patent Owner, we determine that the information presented in the Petition demonstrates a reasonable likelihood that Petitioner would prevail on at least one of the challenged claims of the ’516 patent. We also determine that the arguments and evidence of record do not support discretionary denial of the Petition under 35 U.S.C. § 314(a). Accordingly, we institute an *inter partes* review as to all of the challenged claims of the ’516 patent on all of the grounds of unpatentability set forth therein.

II. BACKGROUND

A. *Related Matters*

The parties indicate that the '516 patent is at issue in the following district court proceedings:

- *Maxeon Solar Pte. Ltd. v. Canadian Solar Inc.* 2-24-cv-00210 (E.D. Texas);
- *Maxeon Solar Pte. Ltd. v. Hanwha Energy Corporation*, 2-24-cv-00262 (E.D. Texas); and
- *Maxeon Solar Pte. Ltd. v. REC Solar Holdings AS*, 2-24-cv-00260 (E.D. Texas).

Pet. 2; Paper 7, 2 (Patent Owner's mandatory notices). Patent Owner also indicates that the '516 patent is at issue in the following proceeding before the Board:

- *Hanwa Solutions Corp. v. Maxeon Solar Pte. Ltd.*, IPR2024-01203 (filed Aug. 8, 2024).

Paper 7, 2.

B. *Real Parties-in-Interest*

Petitioner identifies itself and Canadian Solar (USA) Inc. as the real parties-in-interest. Pet. 2. Patent Owner identifies itself as the real party-in-interest. Paper 7, 2.

C. *The '516 patent*

The '516 patent, titled "Front Contact Solar Cell with Formed Emitter," issued on July 17, 2012. Ex. 1001, codes (45), (54). The '516 patent discloses "structures for a relatively efficient and cost-effective front contact solar cell and processes for manufacturing [the] same." Ex. 1001, 1:40–42. The '516 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. Ex. 1001,

1:22–29. In a backside solar cell, both the diffusion regions and the metal contacts coupled to them are on the backside of the solar cell. Ex. 1001, 1:26–28. 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. Ex. 1001, 1:32–34.

The '516 patent shows one embodiment of its solar cell in Figure 1, reproduced below.

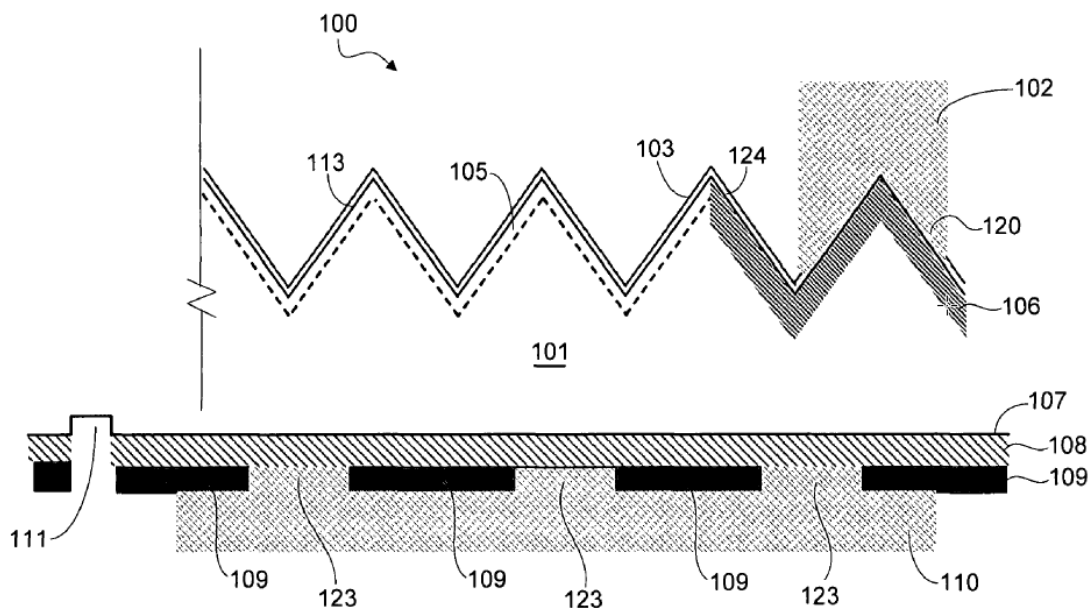


Figure 1 shows a cross-section of a front contact solar cell 100 having metal contact 102 on its front side, which faces the sun during normal operation, and metal contact 110 on its backside. Ex. 1001, 2:22–26. Solar cell 100 also includes N-type silicon substrate 101, tunnel oxide layer 107, polysilicon emitter 108, silicon dioxide layer 109, contact holes 123, and edge isolation trench 111. Ex. 1001, 2:28–31, 2:57–58, 2:66–3:2, 3:22–25. 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. Ex. 1001, 2:36–38, 2:53–56, 3:28–30.

D. Illustrative Claim

Claim 9 is the only independent claim challenged, and is reproduced below.

9. A solar cell having a front side facing the sun to collect solar radiation during normal operation and a backside opposite the front side, the solar cell comprising:
- a substrate having a textured front surface;
 - an emitter layer formed over a back surface of the substrate, the emitter layer forming a backside junction with the substrate;
 - an oxide layer formed between the back surface of the substrate and the emitter layer;
 - a first metal contact making an electrical connection to the substrate on the front side of the solar cell; and
 - a second metal contact making an electrical connection to the emitter layer on the backside of the solar cell, the first metal contact and the second metal contact being configured to allow an external electrical circuit to be powered by the solar cell.

Ex. 1001, 6:42–57.

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 6):¹

Claim(s) Challenged	35 U.S.C. §	Reference(s)
9–11	103	Meier, ² Okayasu, ³ Borden, ⁴ and Jordan ⁵
9–11	103	Meier, Okayasu, Gan, ⁶ Foglietti, ⁷ and Jordan,
9–12	103	Froitzheim ⁸ and Gan
9–12	103	Froitzheim and Kwark ⁹
9–12	103	Froitzheim and Borden

Petitioner also relies upon the declaration testimony of Dr. Sanjay Banerjee (Ex. 1003).

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. The ’516 patent issued on July 17, 2012.

Ex. 1001, code (45). Thus, we apply the pre-AIA versions of § 103.

² US 6,262,359 B1, issued July 17, 2001 (Ex. 1011).

³ JP H7-106611, published April 21, 1995 (Ex. 1012 (English Translation); Ex. 1013 (Japanese Original)).

⁴ WO 2009/094578 A2, published July 30, 2009 (Ex. 1009).

⁵ US 2005/0268963 A1, published Dec. 8, 2005 (Ex. 1015).

⁶ 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).

⁷ US 2002/0142500 A1, published Oct. 3, 2002 (Ex. 1014).

⁸ EP 1732142 A1, published Dec. 13, 2006 (Ex. 1006).

⁹ Y.H. Kwark et al., *SIPOS Heterojunction Contacts to Silicon*, 1984 International Electron Devices Meeting TECHNICAL DIGEST, 1984, pp. 742–745 (Ex. 1008).

III. ANALYSIS

A. Legal Standard

A patent claim is unpatentable under 35 U.S.C. § 103(a) 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 the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *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) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art would have had “an advanced degree in electrical engineering, applied physics, chemistry, or materials science, and at least two years of experience designing, developing, or researching in the field,” or, alternatively, “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. 3–4 (citing Ex. 1003 ¶45).

Patent Owner states that for the purposes of its Preliminary Response, it applies Petitioner’s level of ordinary skill in the art. Prelim. Resp. 7.

On this record, and for purposes of this Decision, we adopt Petitioner’s definition of the person of ordinary skill in the art as it appears consistent with the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d

1350, 1355 (Fed. Cir. 2001) (holding that the prior art itself can reflect the appropriate level of ordinary skill in the art).

C. Claim Construction

In an *inter partes* review, 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*, claim terms are afforded “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 states that it “does not believe that claim construction is necessary to resolve this Petition.” Pet. 10. Patent Owner does not respond to Petitioner’s position and does not otherwise directly address claim construction. *See generally* Prelim. Resp.

Upon review of the record, we determine that no claim terms require express construction for purposes of this Decision. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Claims 9–12: Alleged Obviousness in view of Froitzheim and Gan

Petitioner contends that claims 9–12 would have been unpatentable as obvious in view of Froitzheim and Gan. Pet. 39–57. Patent Owner

challenges Petitioner's arguments. Prelim. Resp. 41–42.

1. *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. Ex. 1006 ¶ 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.” Ex. 1006 ¶ 39.

2. *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.” Ex. 1007, 245. 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. Ex. 1007, 245. 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.” Ex. 1007, 249.

3. *Claim 9*

Petitioner contends that Froitzheim and Gan teach or suggest each limitation in Claim 9. Claim 9 recites “[a] solar cell having a front side facing the sun to collect solar radiation during normal operation and a backside opposite the front side.” Ex. 1001, 6:42–44. Petitioner contends Froitzheim discloses this limitation based on Froitzheim’s statement that “[d]uring normal operation of the solar cell 1, the front side 6 faces the sun and light is received through the area of the front surface that is not covered by the front contact 16.” Pet. 48 (quoting Ex. 1006 ¶ 32).

Claim 9 next recites “a substrate having a textured front surface.” Ex. 1001, 6:45. Petitioner contends Froitzheim discloses this limitation based on Froitzheim’s statement that “[i]f desired[,] a short, alkaline crystal-oriented etching can be used to texture the surface in order to improve the geometry of incidence of light in order to prevent reflection.” Pet. 48–49 (quoting Ex. 1006 ¶ 39).

The next limitations in claim 9 are “an emitter layer formed over a back surface of the substrate, the emitter layer forming a backside junction with the substrate” and “an oxide layer formed between the back surface of the substrate and the emitter layer.” Ex. 1001, 6:46–50. According to Petitioner, “the p-type doped emitter 10 [in Froitzheim] forms a ‘PN junction 12’ with the n-type substrate on the backside of the solar cell, and thus forms a ‘*backside junction*.’” Pet. 49 (citing Ex. 1006 ¶¶ 24–27). Petitioner further contends that a person of ordinary skill in the art, based on the

teachings of Gan, would have replaced Froitzheim's p-type diffused emitter with a p-type polysilicon emitter and oxide layer. Pet. 49–51 (citing Ex. 1007, 245).

Petitioner asserts that Froitzheim discloses “a first metal contact making an electrical connection to the substrate on the front side of the solar cell” and “a second metal contact making an electrical connection to the emitter layer on the backside of the solar cell,” as claim 9 requires. Ex. 1001, 6:51–54. For these limitations, Petitioner directs us to front side contacts 16 and rear side contact 15 in Froitzheim. Pet. 51–52 (citing Ex. 1006 ¶¶ 27–28).

Claim 9 also requires “the first metal contact and the second metal contact being configured to allow an external electrical circuit to be powered by the solar cell.” Ex. 1001, 6:54–57. Petitioner contends Froitzheim's solar cell is configured to power an external circuit based on Froitzheim's statement that “[f]ront and rear side contacts are arranged . . . in electrical connection with the n-doped layer and the p-doped base layer, respectively, to withdraw a photocurrent from both sides of the p/n-junction.” Pet. 53 (quoting Ex. 1006 ¶ 2). Petitioner contends that it was well-known that the purpose of withdrawing electric current from a solar cell is to power an external circuit. Pet. 52.

At this stage, Patent Owner does not dispute that Froitzheim and Gan teach or suggest the limitations of claim 9. *See* Prelim. Resp. After reviewing Petitioner's undisputed evidence, including the relevant portions of the Banerjee declaration, we are persuaded that Petitioner has demonstrated sufficiently for purposes of institution that Froitzheim and Gan teach or suggest the limitations of claim 9.

Petitioner also contends that Froitzheim and Gan are analogous art, and that a person of ordinary skill in the art would have had reason to replace Froitzheim's diffused emitter with a polysilicon emitter and oxide layer in view of Gan based on Gan's disclosure that "cell performance can be improved if the diffused-emitter is replaced with the polysilicon emitter." Pet. 43 (quoting Ex. 1007, 245) (emphasis omitted). Petitioner also directs us to Gan's statement that certain benefits in performance "may have to do with the use of thermal oxide as the interfacial layer" in its samples. Pet. 43 (quoting Ex. 1007, 248).

Patent Owner does not challenge Petitioner's arguments and evidence regarding the reasons to combine Froitzheim and Gan. *See* Prelim. Resp. After reviewing Petitioner's undisputed evidence, including the relevant portions of the Banerjee declaration, we are persuaded that Petitioner has demonstrated sufficiently for purposes of institution that a person of ordinary skill in the art would have had reason to combine Froitzheim and Gan.

Petitioner also contends that a person of ordinary skill in the art would have had a reasonable expectation of success in achieving the claimed invention based on the combination of Froitzheim and Gan. According to Petitioner, a person of ordinary skill in the art

would have considered the Froitzheim/Gan combination to be merely an arrangement of old elements 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).

Specifically, before introducing the boron dopant by diffusion at the rear side of the substrate (e.g., as described in

Froitzheim's ¶¶40–41), the Skilled Artisan would perform Gan's steps of thin thermal oxide growth to form the interfacial layer and polysilicon deposition to form the polysilicon on the back side of the wafer, after which the polysilicon would be doped instead of the substrate to form the polysilicon emitter.

Pet. 47 (citing Ex. 1003 ¶¶ 152–153; Ex. 1007, 246).

Patent Owner argues that Petitioner fails to show a person of ordinary skill in the art would have had a reasonable expectation of success in incorporating Gan's oxide layer into Froitzheim. Prelim. Resp. 41–42. In particular, Patent Owner contends that Petitioner's argument that the combination is a simple substitution of prior art elements according to known methods, "is expressly contradicted by the authors of Gan." Prelim. Resp. 41. Petitioner directs us to teachings from the Gan Thesis¹⁰ that purportedly demonstrate that there are "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.'" Prelim. Resp. 41–42.

After reviewing the parties' arguments and evidence, we are persuaded that Petitioner has demonstrated sufficiently for purposes of institution that a person of ordinary skill in the art would have had a reasonable expectation of success in achieving the claimed invention based on the combination of Froitzheim and Gan.

Petitioner directs us to evidence in Gan and testimony from Dr. Banerjee that suggests Gan provided information regarding how to form an oxide layer and doped polysilicon layer on a silicon substrate. Pet. 47–

¹⁰ Jon-Yiew Gan, *Polysilicon Emitters for Silicon Concentrator Solar Cells*, A Dissertation Submitted to the Department of Materials Science and Engineering and the Committee on Graduate Studies of Stanford University, July 1990 (Ex. 2003).

48; Ex. 1003 ¶¶ 152–155; Ex. 1007, 246–247. On this record, this evidence provides sufficient support for Petitioner’s argument that the proposed combination involves the use of a known technique from Gan to improve Froitzheim’s solar cell, and could have been accomplished with a reasonable expectation of success.

Patent Owner’s arguments to the contrary are unavailing. First, Patent Owner’s argument regarding “no assurances” suggest that it is applying an incorrect standard on this issue. “Only a reasonable expectation of success, not absolute predictability, is necessary for a conclusion of obviousness.” *In re Longi*, 759 F.2d 887, 896 (Fed. Cir. 1985). Second, Patent Owner directs us to evidence from the Gan Thesis, not Gan itself. Prelim. Resp. 41–42 (citing Ex. 2003). Patent Owner, however, does not direct us to sufficient evidence demonstrating when this reference became available to the public. Absent such evidence, we are unable to agree with Patent Owner’s conclusion of what a person of ordinary skill in the art at the time of the invention would have understood based on the Gan Thesis.

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 reasonable expectation of success in achieving the claimed invention.

For all of the foregoing reasons, we determine Petitioner has demonstrated a reasonable likelihood that claim 9 would have been obvious in view of the combined teachings of Froitzheim and Gan.

4. *Claims 10–12*

Claims 10–12 depend from claim 9. Ex. 1001, 6:58–65. Petitioner directs us to portions of Froitzheim and Gan that disclose or suggest the limitations in these claims. Pet. 54–57. At this stage of the proceeding, Patent Owner does not separately dispute that Froitzheim and Gan disclose or suggest the limitations in claims 10–12. *See* Prelim. Resp.

After reviewing the evidence and arguments Petitioner presents in the Petition, including the relevant portions of the supporting Banerjee declaration, we are persuaded Petitioner has established a reasonable likelihood of prevailing on its obviousness challenge with respect to these claims.

5. *Conclusion*

For all of the foregoing reasons, we determine Petitioner has established a reasonable likelihood of prevailing on its challenge that claims 9–12 are unpatentable as obvious in view of Froitzheim and Gan.

Because Petitioner has demonstrated a reasonable likelihood that at least one challenged claim of the ’516 patent is unpatentable over the prior art of record, and because we are not persuaded that we should discretionarily deny the Petition under 35 U.S.C. § 314(a) for the reasons discussed below, we institute an *inter partes* review. Since we find some grounds sufficient for institution, we institute on all grounds in the Petition. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1353 (2018) (“The agency cannot curate the claims at issue but must decide them all.”); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute as requiring “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”). Nevertheless,

in order to further guide the parties after institution, we provide the following observations.

E. Claims 9–12: Alleged Obviousness in view of Froitzheim and Kwark

Petitioner contends that claims 9–12 would have been unpatentable as obvious in view of Froitzheim and Kwark. Pet. 57–64. Patent Owner challenges Petitioner’s arguments. Prelim. Resp. 41–42.

1. 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_{oe}) “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 that for polysilicon emitters, the absence of chemox does not “greatly impact J_{oe} ,” but the addition of the chemox “greatly decreases the J_{oe} .” Ex. 1008, 743, Fig. 4.

2. Claim 9

Petitioner contends that Froitzheim and Kwark teach or suggest each limitation in claims 9–12. Similar to its challenge based on Froitzheim and Gan, for this challenge Petitioner contends Froitzheim discloses all elements of these claims except for the oxide layer formed between the back surface of the substrate and the emitter layer in claim 9, and the polysilicon emitter in claim 11. Pet. 63. Petitioner contends that Kwark discloses using a polysilicon emitter layer and an intervening oxide layer between the emitter layer and substrate. Pet. 63–64 (citing Ex. 1008, 742, Fig. 4; Ex. 1003 ¶¶ 193–196).

At this stage, Patent Owner does not dispute that Froitzheim and Kwark teach or suggest all limitations of claims 9–12. *See* Prelim. Resp. After reviewing Petitioner’s undisputed evidence, including the relevant portions of the Banerjee declaration, we are persuaded that Petitioner has demonstrated sufficiently for purposes of institution that Froitzheim and Kwark teach or suggest the limitations of claims 9–12.

Petitioner argues that a person of ordinary skill in the art would have had reason to modify Froitzheim’s emitter to be a polysilicon emitter with an oxide layer because Kwark teaches the modification would be an improvement. Pet. 60. Petitioner contends Kwark discloses that using a pure polysilicon emitter produced “good results” similar to other emitters, and that the addition of an interfacial chemically grown oxide layer (chemox) between the polysilicon emitter and the substrate can lead to “potential improvements of energy conversion efficiency for solar cells.” Pet. 60–61 (quoting and citing Ex. 1008, 742, 745). Petitioner further contends that a person of ordinary skill in the art would have had a reasonable expectation of successfully combining the teachings of Froitzheim and Kwark to achieve the claimed invention because it involved substituting known prior art elements for others, with each performing the same function it had been known to perform. Pet. 62.

Patent Owner challenges Petitioner’s arguments regarding the reasons to combine Froitzheim and Kwark, and regarding a reasonable expectation of success. Patent Owner argues that Petitioner “incorrectly attributes the ‘potential improvements’ and ‘good results’ that Kwark found for SIPOS^[11] emitter contacts to a polysilicon emitter.” Prelim. Resp. 43.

¹¹ Kwark defines “SIPOS” as “SiO_x, x < 2”.

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.” Ex. 1008, 742. Accordingly, Kwark at least suggests that using a pure polysilicon emitter produced “good results,” consistent with Petitioner’s arguments.

Patent Owner also argues that Kwark recognized that polysilicon emitters with chemox rapidly lose performance after high temperature anneal steps, whereas other emitters, such as a SIPOS emitter, are more resilient. Prelim. Resp. 43–44. Patent Owner contends that Kwark Figure 4 shows that “higher temperature annealing *eliminates* the effects of the oxide” for polysilicon emitters, and that this is entirely consistent with the teachings of Gan, which concludes that a high temperature annealing step breaks down the oxide layer. Prelim. Resp. 44 (citing Ex. 1007, 245; Ex. 1008, 745). As a result, according to Patent Owner, a person of ordinary skill in the art “would have been well aware that modifying Froitzheim based on Kwark’s method of forming a polysilicon emitter, disposing a chemox layer, and then annealing the device at high temperature, would not result in a device having an oxide layer disposed between substrate and a polysilicon emitter layer.” Prelim. Resp. 44–45.¹²

¹² 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.

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 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. Conclusion

For all of the foregoing reasons, we determine Petitioner has established a reasonable likelihood of prevailing on its challenge that claims 9–12 are unpatentable as obvious in view of Froitzheim and Kwark.

F. Claims 9–12: Alleged Obviousness in view of Froitzheim and Borden

Petitioner contends that claims 9–12 would have been unpatentable as obvious in view of Froitzheim and Borden. Pet. 65–68. Patent Owner challenges Petitioner's arguments. Prelim. Resp. 47–50.

1. *Borden (Ex. 1009)*

Borden is directed to an improved structure for solar cells that includes forming a masking oxide layer on the front and back of the cell and patterning holes in the oxide layer. Ex. 1009, Abstr. Borden teaches that an HIT cell structure (heterojunction with intrinsic thin layer) or polysilicon emitter solar cell structure can be formed over the patterned oxide to create a cell junction in the areas where holes have been cut. Ex. 1009 ¶ 8. Borden states that

[b]enefits of the invention include that it provides a controlled interface for the HIT cell through insertion of a thin tunnel oxide. Moreover, the tunnel oxide prevents epitaxial growth of amorphous silicon, allowing it to remain amorphous for the optimum band structure. Still further, it provides a layer to protect the surface from plasma damage during deposition of the a-Si layer. Further, it may be used in conjunction with a point contact structure to further increase efficiency.

Ex. 1009 ¶ 8.

2. *Claims 9–12*

Petitioner contends that Froitzheim and Borden teach or suggest each limitation in claims 9–12. Similar to its challenge based on Froitzheim and Gan, for this challenge Petitioner contends Froitzheim discloses all elements of these claims except for the oxide layer formed between the back surface of the substrate and the emitter layer in claim 9, and the polysilicon emitter in claim 11. Pet. 67. Petitioner contends that Borden discloses “that tunnel oxides can be used between a heavily doped or insulating layer of polysilicon and a crystal silicon substrate, forming a polysilicon emitter solar cell.” Pet. 67 (quoting Ex. 1009 ¶ 16).

At this stage, Patent Owner does not dispute that Froitzheim and Borden teach or suggest all limitations of claims 9–12. *See Prelim. Resp.*

After reviewing Petitioner's undisputed evidence, including the relevant portions of the Banerjee declaration, we are persuaded that Petitioner has demonstrated sufficiently for purposes of institution that Froitzheim and Borden teach or suggest the limitations of claims 9–12.

Petitioner argues that a person of ordinary skill in the art would have been motivated to replace Froitzheim's emitter with a polysilicon emitter having an oxide layer because a "polysilicon emitter increases solar cell efficiency as previously taught by Gan and Kwark and Borden further taught that the oxide layer 'prevents epitaxial growth,' allowing for 'optimum band structure' and 'provides a layer to protect the surface from plasma damage.'" Pet. 66 (quoting Ex. 1009, Abstr.; citing Ex. 1003 ¶ 199).

Patent Owner argues Petitioner failed to meet its burden to show that a person of ordinary skill in the art would have had reason to combine Borden with Froitzheim because Petitioner fails to "explain how Borden's alleged benefits would apply to Froitzheim." Prelim. Resp. 47. According to Patent Owner, Borden's purported benefits of "preventing epitaxial growth" and "protect[ing] the surface from plasma damage," are not applicable to the proposed combination because Froitzheim does not use a plasma deposition process. Prelim. Resp. 48. Patent Owner further contends Borden only teaches using plasma deposition for forming an amorphous silicon (a-Si) layer, and Borden recognizes a-Si layers have distinct physical properties from polysilicon layers. Prelim. Resp. 48 (citing Ex. 1009 ¶¶ 16, 24). Additionally, according to Patent Owner, "[c]onverting Borden's amorphous silicon into polysilicon would require an additional high temperature annealing step that would undermine the very oxide layer that [Petitioner] seeks to introduce from Borden," in view of Gan's teachings regarding the break up of oxide layers at high annealing temperatures. Prelim. Resp. 48

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(citing Ex. 1007, 245).

Patent Owner also argues that Borden discloses two different oxide layers, a masking oxide layer and a tunnel oxide layer, that Petitioner mixes and matches between citations to the two different oxide layers, and that Petitioner fails to identify any benefit from forming a tunnel oxide on the back side of a solar cell. Prelim. Resp. 32–33 (citing Ex. 1009, Abstr., ¶ 8), 48–49.

Patent Owner’s arguments have merit, and raise questions of material fact best left for resolution at trial. For example, we have concerns about whether Borden’s purported benefits of using an oxide layer would apply to Froitzheim. The complete statement from Borden reads: “the tunnel oxide prevents epitaxial growth of amorphous silicon, allowing it to remain amorphous for the optimum band structure. Still further, it provides a layer to protect the surface from plasma damage during deposition of the a-Si layer.” Ex. 1009, Abstr. On its face, this language suggests Borden’s benefits are directed to use of oxides with an a-Si layer, not a polysilicon layer, which is used in Petitioner’s proposed combination. Additionally, clarification or explanation of Borden’s disclosure of masking oxides and tunnel oxides would be helpful to the resolution of this challenge, to the extent Petitioner maintains it.

G. Collateral Estoppel

According to Petitioner, after the ’516 patent issued, SunPower, the company who assigned the ’516 patent family to Patent Owner, filed a series of continuation applications that claimed priority to the ’516 patent. Pet. 9. These applications include U.S. Application No. 14/504,771 (“the ’771

Application”) and U.S. Application No. 16/460,035 (“the ’035 Application”). Pet. 9. Petitioner contends that

During prosecution of the 771 Application, the Examiner discovered polysilicon emitter and intervening oxide layer prior art references that she had not reviewed when examining the 516 patent. Based on the newly discovered prior art, the Examiner rejected the 771 Application’s claims as obvious based on the combinations of (1) Meier in view of Okayasu, Borden, and Wenham and (2) Meier in view of Okayasu, Foglietti, Gan, and Wenham. EX1005, 447-455.

SunPower appealed the rejections to the PTAB (EX1005, 458-499), which affirmed (EX1005, 507-520).

Pet. 9–10.

Petitioner further contends that a similar situation occurred during prosecution of the ’035 Application: the Examiner rejected claims that were substantially similar to claims in the ’516 patent based on Meier, Okayasu, Borden, Wenham, Jordan, and Xi, SunPower appealed the rejections, and the PTAB again affirmed. Pet. 10. Petitioner notes that SunPower did not appeal either of the PTAB’s decisions to the Federal Circuit. Pet. 10.

Petitioner contends that in view of the two earlier proceedings in which the PTAB ruled that claims substantially similar to claims 9–11 of the ’516 Patent were unpatentable as obvious over Meier in view of Okayasu, Borden, and Jordan, or alternatively Meier in view of Okayasu, Gan, Foglietti, and Jordan, “[Patent Owner] is collaterally estopped from relitigating the unpatentability of claims 9–11 because the previously rejected claims were not materially different from the challenged claims in this IPR.” Pet. 13 (citing *Google LLC v. Hammond Development Int’l*, 54 F.4th 1377, 1381–1382 (Fed. Cir. 2022)). Petitioner contends that collateral estoppel applies to IPR proceedings, and a final PTAB decision has

preclusive effects. Pet. 13 (citing *B&B Hardware, Inc. v. Hargis Indus., Inc.*, 575 U.S. 138 (2015)).

Patent Owner argues that Petitioner improperly attempts to estop Patent Owner from defending the challenged claims based on Board decisions of *ex parte* appeals during prosecution of subsequent continuation applications. Prelim. Resp. 8. According to Patent Owner, the Board “has rejected similar estoppel arguments because ‘[t]he prosecution of [a patent] application is an *ex parte* proceeding, not an adversarial proceeding such as a district court litigation or *inter partes* review.’” Prelim. Resp. 8 (citing *Medtronic Vascular, Inc. v. TMT Sys., Inc.*, IPR2021-01532, Paper 56 at 41 (PTAB Mar. 7, 2023)). Patent Owner also asserts that Petitioner cites no authority applying collateral estoppel in an IPR proceeding based on an *ex parte* appeal in initial examination proceedings of related applications. Pet. 8 (explaining that Petitioner relies only on cases applying estoppel based on other *inter partes* proceedings at the Office).

We agree with Patent Owner that Petitioner has not demonstrated sufficiently that collateral estoppel should apply here. First, Patent Owner correctly notes that Petitioner has not directed us to any binding authority applying collateral estoppel in an IPR proceeding based on an *ex parte* appeal. Prelim. Resp. 8. Instead, the cases Petitioner cites all involve *inter partes* proceedings. Prelim. Resp. 8–9; Pet. 13 (citing *B&B Hardware*, 575 U.S. at 148 (TTAB, *inter partes* opposition proceeding); *Google*, 54 F.4th at 1381 (PTAB, *inter partes* review proceeding); *SynQor, Inc. v. Vicor Corp.*, 988 F.3d 1341, 1344 (Fed. Cir. 2021) (PTAB, *inter partes* reexamination proceeding)).

Additionally, “a party seeking to invoke collateral estoppel must show: ‘(1) the issue is identical to one decided in the first action; (2) the

issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) [the party against whom collateral estoppel is being asserted] had a full and fair opportunity to litigate the issue in the first action.” *Google*, 54 F.4th at 1381 (quoting *In re Freeman*, 30 F.3d 1459, 1465 (Fed. Cir. 1994)).

Contrary to Petitioner’s arguments, the present facts do not demonstrate that the unpatentability issue here was actually litigated in the other actions. Petitioner contends the unpatentability issue here was already litigated based entirely on the activities that took place as part of *ex parte* appeals in examination proceedings involving different claims in different patent applications. Pet. 17–18. As Patent Owner points out, however, the Federal Circuit has distinguished the nature of patent prosecution from litigation, explaining that “[w]hile *res judicata* has its proper place in the law as a reflection of a policy invoked to settle disputes and put an end to litigation, the prosecution of patent applications is not exactly either a dispute or litigation in the usual sense of these terms.” *In re Craig*, 411 F.2d 1333, 1335–36 (CCPA 1969); Prelim. Resp. 18. Furthermore,

there is a general consensus among courts that . . . [a] patent prosecution is not an adversarial, litigation-type proceeding, but a wholly *ex parte* proceeding before the PTO because although the process involves preparation and defense of legal claims in a quasi-adjudicatory forum, the give-and-take of an adversary proceeding is by and large absent.

Realvirt, LLC v. Lee, 179 F. Supp. 3d 604, 607 (E.D. Va. 2016) (internal quotation omitted), *aff’d sub nom.*, *Realvirt, LLC v. Iancu*, 734 F. App’x 755 (Fed. Cir. 2018); *see also id.* (stating that “PTO proceedings lack the opportunity for cross-examination, discovery, and other tools available to adversarial litigants”). Accordingly, we determine Petitioner’s collateral

estoppel argument fails at least because the same issues were not “actually litigated.”

For all of the foregoing reasons, we determine that Petitioner has not demonstrated sufficiently that collateral estoppel should apply here.

H. Claims 9–11: Alleged Obviousness in view of Meier, Okayasu, Borden, and Jordan

Petitioner contends claims 9–11 would have been unpatentable as obvious in view of Meier, Okayasu, Borden, and Jordan. Pet. 20–34. Petitioner directs us to portions of these references that purportedly teach or suggest the limitations recited in these claims. Pet. 25–34. Petitioner contends that a person of ordinary skill in the art would have had reason to modify Meier to include a polysilicon emitter (as taught by Okayasu) and an oxide layer (as taught by Borden). Pet. 23–24. In support, Petitioner directs us to statements made by the PTAB when addressing the appeal during prosecution of the ’771 Application. Pet. 23–24. According to Petitioner, “[t]he previous conclusion of the Examiner and the PTAB were correct, and in this proceeding the PTAB should come to the same conclusion for the same reasons, as Dr. Banerjee explains. EX1003, ¶¶86-95.” Pet. 24.

Patent Owner argues that Petitioner failed to satisfy its burden of showing unpatentability in this proceeding because it does not cite to the relevant portions of the asserted references to support its challenge. Prelim. Resp. 28–29. Instead, Petitioner “only identifies findings of the ‘771 Application Examiner’ and the PTAB’s affirmance thereof (for *different claims* from a different application).” Prelim. Resp. 28. Patent Owner also contends that Petitioner’s citation of ten paragraphs from Dr. Banerjee’s declaration in an improper incorporation by reference. Prelim. Resp. 29.

We agree with Patent Owner. Petitioner presents a challenge based on previous conclusions of an Examiner and the Board when addressing different claims in a different patent. Pet. 23–24. It is Petitioner’s burden to identify and explain the evidence that supports the challenge to each claim. *See* 37 C.F.R. § 42.22(a)(2) (“Each petition or motion must be filed as a separate paper and must include . . . (2) A full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence including material facts, and the governing law, rules, and precedent.”). Petitioner does not direct us to any authority establishing that it may rely on findings of an Examiner or a Board decision involving different claims from a different patent application to satisfy its evidentiary burdens in this proceeding.

Additionally, our rules prohibit incorporating arguments by reference from one document into another document. 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”). We agree with Patent Owner that Petitioner improperly attempts to incorporate arguments and evidence from ten paragraphs in Dr. Banerjee’s declaration into the Petition. Prelim. Resp. 29; Pet. 24. We decline to look through Dr. Banerjee’s declaration to identify the arguments and evidence that purportedly support Petitioner’s challenge.

I. *Claims 9–11: Alleged Obviousness in view of Meier, Okayasu, Foglietti, Gan, and Jordan*

Petitioner contends claims 9–11 would have been unpatentable as obvious in view of Meier, Okayasu, Foglietti, Gan, and Jordan. Pet. 34–39. Petitioner directs us to portions of these references that purportedly teach or suggest the limitations recited in these claims. Pet. 34–39. Petitioner contends that a person of ordinary skill in the art would have had reason to

modify Meier to include a polysilicon emitter (as taught by Okayasu) and an oxide layer (as taught by Foglietti and Gan). Pet. 38–39. In support, Petitioner relies on the same reasons for combining Meier and Okayasu discussed above, and directs us to statements made by the PTAB when addressing the appeal during prosecution of the ’771 Application. Pet. 38–39. According to Petitioner, “[t]he PTAB prior findings and conclusions were correct, and it should rule the same in this IPR.” Pet. 39.

We find Petitioner’s arguments here to be problematic for the same reasons discussed above. Namely, Petitioner fails to identify and explain sufficiently the evidence that supports the challenge to each claim. 37 C.F.R. § 42.22(a)(2). Petitioner also directs us to no authority establishing that it may rely on findings of an Examiner or a Board decision involving different claims from a different patent application for this proceeding.

IV. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314(A)

Under 35 U.S.C. § 314(a) we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261, 273 (2016). Petitioner argues against discretionary denial under 35 U.S.C. § 314(a). Pet. 11–12; Prelim. Reply. Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) and not institute trial. Prelim. Resp. 51–64; Prelim. Sur-reply. For the reasons set forth below, we do not exercise our discretion to deny institution in view of the parallel district court proceeding.

Institution of an *inter partes* review is discretionary. *See* 35 U.S.C. § 314(a) (authorizing institution of an *inter partes* review under particular circumstances, but not requiring institution under any circumstances);

Cuozzo, 579 U.S. at 273 (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“[Section] 314(a) invests the Director with discretion on the question whether to institute review” (emphasis omitted)); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d at 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”).

We consider several factors when determining whether to deny institution under § 314(a) based on a parallel district court proceeding, specifically

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
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, Inc., IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). We also consider “several clarifications” made by the Director of the United States Patent and Trademark Office (“USPTO”). See USPTO Memorandum, Interim Procedure for

Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, 2 (June 21, 2022) (“Guidance Memorandum”).¹³

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

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Fintiv* at 6.

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 1–2; Pet. 11), and Patent Owner disagrees (Prelim. Resp. 51–53, 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. 11; Prelim. Reply 2; Prelim. Resp. 52–53; 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.

¹³ 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>.

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

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv* at 6.

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. Patent Owner acknowledges that the median time-to-trial data for the Eastern District of Texas is consistent with the current trial date. Prelim. Resp. 55–56.

Petitioner argues that factor 2 weighs against exercising our discretion to deny because the projected date for the Final Written Descision is earlier than the scheduled trial date. Prelim. Reply 3 (citing Guidance Memorandum at 9). Patent Owner contends that factor 2 is neutral “given the close proximity between the district court’s trial date and the projected deadline for the PTAB’s Final Written Decision.” Prelim. Resp. 56; *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. *Factor 3 – Investment in the parallel proceeding by the court and the parties*

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv* at 6.

Petitioner argues this factor weighs “strongly” in its favor because it filed its Petition expeditiously and “institution occurs months before the scheduled *Markman* hearing.” Prelim. Reply 3–4; Pet. 12. Petitioner also indicates that although discovery has begun, fact and expert discovery do not close until August and October 2025, respectively, “leaving the bulk of discovery ahead.” Prelim. Reply 4.

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. 56. 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*,^[14] where *Fintiv* factor three did not weigh against exercising discretion to deny institution.” Prelim. Sur-reply 3–4.

We disagree with Patent Owner. In *Sand Revolution*, the district court conducted a *Markman* hearing and entered a related order. *Sand Revolution* 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

¹⁴ *Sand Revolution II, LLC v. Continental Intermodal Group — Trucking LLC*, IPR2019-01393, Paper 24 (PTAB June 16, 2020) (informative) (“*Sand Revolution*”).

issued any substantive orders related to the '516 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* at 9–11. Thus, we determine that *Fintiv* factor 3 weighs against exercising our authority to deny institution.

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

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv* at 6.

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. 12.

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. 58–59. Patent Owner contends Petitioner’s stipulation is not a *Sotera*¹⁵-type stipulation, because it leaves open the possibility that Petitioner could add to the district court action a ground that it asserted or could have asserted in the Petition against claims not at issue in the IPR. Prelim. Resp. 59–60.

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* at 12. Accordingly, we

¹⁵ *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (precedential) (“*Sotera*”).

determine that *Fintiv* factor 4 weighs against exercising our authority to deny institution.

5. Factor 5 – Whether the petitioner and the defendant in the parallel proceeding are the same party

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv* at 6. The parties agree that the parties in this IPR are the same as those in the parallel district court litigation. Pet. 12; Prelim. Resp. 61.

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. Factor 6 – Other circumstances that impact the Board’s exercise of discretion, including the merits

Under the sixth *Fintiv* factor, we consider “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv* at 6. Petitioner contends this factor weighs against discretionary denial as the “Petition presents a compelling case of invalidity.” Pet. 71; Prelim. Reply 2–5. Patent Owner contends Petitioner failed to present a *prima facie* case of obviousness. Prelim. Resp. 31.

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. *Conclusion – Fintiv*

Absent a compelling reason to the contrary, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review” when evaluating the *Fintiv* factors. *Fintiv* at 6; *see* Guidance Memorandum. Having evaluated all of the factors on this record, we determine that the circumstances presented do not support exercising our discretion under § 314(a) to deny institution of this *inter partes* review.

V. CONCLUSION

For the above reasons, we determine that there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition. We also determine that the arguments and evidence of record do not support discretionary denial of the Petition under 35 U.S.C. § 314(a). Accordingly, we institute an *inter partes* review of all challenged claims based on the grounds asserted in the Petition.

VI. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of the ’516 patent is hereby instituted as to claims 9–12 on the grounds set forth in the Petition;

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.

IPR2024-01039
Patent 8,222,516 B2

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