

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG SEMICONDUCTOR, INC., and
SAMSUNG AUSTIN SEMICONDUCTOR, LLC,
Petitioner,

v.

CHIEN-MIN SUNG,
Patent Owner.

IPR2024-00533
Patent 8,974,270 B2

Before BARRY L. GROSSMAN, GEORGE R. HOSKINS, and
FRANCES L. IPPOLITO, *Administrative Patent Judges*.

IPPOLITO, *Administrative Patent Judge*.

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

I. INTRODUCTION

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Semiconductor, Inc., and Samsung Austin Semiconductor, LLC, (“Petitioner”) filed a Petition (Paper 5, “Pet.”) requesting *inter partes* review of claims 1–8 of U.S. Patent No. 8,974,270 B2 (Ex. 1001, “the ’270 patent”). Chien-Min Sung (“Patent Owner”) filed a Preliminary Response (Paper 9) and a Corrected Preliminary Response (Paper 13, “Prelim. Resp.”)¹.

With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 14, “Prelim. Reply”) and Patent Owner filed a Sur-reply to Petitioner’s Reply (Paper 15, “Prelim. Sur-reply”) to address whether we should deny institution under 35 U.S.C. § 314(a) and *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). See Paper 12, 3–5. For reasons provided below, we decide not to invoke this discretion to deny institution.

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Considering the arguments presented, we conclude that there is a reasonable likelihood that Petitioner would prevail in challenging at least one of claims 1–8 of the ’270 patent as unpatentable under the grounds presented in the Petition. Pursuant to § 314, we hereby institute an *inter partes* review as to these claims of the ’270 patent.

¹ Our citations herein are to the Corrected Preliminary Response.

A. Real Parties in Interest

Petitioner identifies Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Samsung Semiconductor, Inc., and Samsung Austin Semiconductor, LLC as real parties-in-interest. Pet. 1.

Patent Owner identifies himself as the real party-in-interest. *See* Paper 6, 1.

B. Related Matters

Petitioner indicates that the '270 patent has been asserted in the following district court litigation: *Sung v. Samsung Electronics Co., et al.*, No. 4:23-cv-00752 (E.D. Tx.) (“the Samsung Litigation”). Pet. 1. Patent Owner identifies *Sung v. Kinik Co.*, No. 1:20-cv-00247-RGA (D. Del. Feb. 20, 2020) and *Sung v. Texas Instruments, Inc.*, No. 4:23-cv-00753 (E.D. Tex.) (“the TI Litigation”) as related matters.

Petitioner has also filed IPR proceedings to challenge two other patents owned by Patent Owner that are related to the '270 patent. *See* Pet. 1. They are: IPR2024-00534 (U.S. Patent No. 9,138,862 B2) and IPR2024-00535 (U.S. Patent No. 9,724,802 B2).

C. The '270 Patent

According to the '270 patent, a common technique for manufacturing even-surfaced silicon wafers is known as Chemical Mechanical Polishing (CMP), and includes the use of a polishing pad in combination with an abrasive slurry. Ex. 1001, 1:15–20. The '270 patent discloses CMP pad dressers that “include a layer of superabrasive particles having substantially leveled tips across the working surface of the finished CMP pad dresser.” *Id.* at 7:1–3. According the '270 patent, “[a]s used herein, ‘superabrasive’ may be used to refer to any crystalline, or polycrystalline material, or

mixture of such materials which has a Mohr's hardness of about 8 or greater." *Id.* at 4:9–11. Figure 1, reproduced below, illustrates a CMP pad dresser 10 that includes a monolayer of a plurality of superabrasive particles 12 embedded in matrix layer 14. *Id.* at 7:8–10.

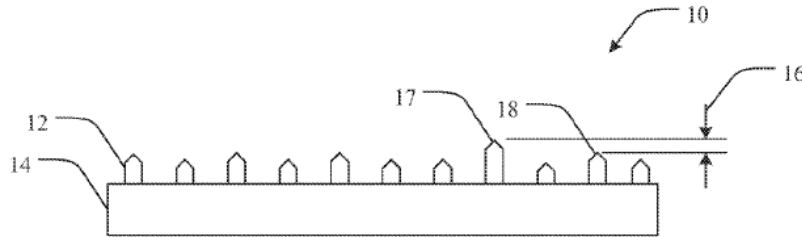


FIG. 1

As shown in Figure 1, each superabrasive particle in the monolayer protrudes from the matrix layer and the difference in protrusion distance 16 between the highest protruding tip 17 and the next highest protruding tip 18 of the monolayer of superabrasive particles is less than or equal to about 50 microns. *Id.* at 7:10–16. Additionally, with reference to Figure 2, the '270 patent teaches first monolayer of superabrasive particles 22 arranged on a surface of metal support layer 24 and second monolayer of superabrasive particles 26 arranged on the metal support layer on a side that is opposite to the first monolayer. *Id.* at 10:22–25.

D. Challenged Claims

Petitioner challenges claims 1–8. Pet. 1. Claim 1 is the sole independent claim and is reproduced below with, in brackets, the Petitioner's identifiers:

1. [1Pre] A CMP pad dresser, comprising:
 - [1A] a first monolayer of superabrasive particles disposed on and protruding from one side of a metal support layer,
 - [1B] wherein the difference in protrusion distance between the highest protruding tip and the second highest protruding tip of

the monolayer of superabrasive particles is less than or equal to about 50 microns;

[1C] a second monolayer of superabrasive particles disposed on the metal support layer on an opposite side from the first monolayer,

[1D] wherein the superabrasive particles of the second monolayer are positioned to have substantially the same distribution as the superabrasive particles of the first monolayer; and

[1E] a rigid support coupled to the second monolayer of superabrasive particles opposite the first monolayer.

Ex. 1001, 17:35–18:10.

E. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–8 would have been unpatentable on the following grounds (Pet. 6):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 3–8	103	Chou, ² Sung '479 ³
6, 7	103	Chou, Sung '479, SungECS ⁴
2	103	Chou, Sung '479, Goers ⁵

Petitioner also relies on the Declaration of Stanley Shanfield, Ph.D.

Ex. 1002.

² U.S. Patent Application Publication No. 2010/0022174 A1, published Jan. 28, 2010 (Ex. 1004) (“Chou”).

³ U.S. Patent Application Publication No. 2008/0096479 A1, published Apr. 24, 2008 (Ex. 1005) (“Sung '479”).

⁴ Sung et al. “Polycrystalline Diamond (PCD) Shaving Dresser: The Ultimate Diamond Disk (UDD) for CMP Pad Conditioning,” ECS Transactions, 18 (1) 523-528 (2009) (Ex. 1007) (“SungECS”).

⁵ U.S. Patent Application Publication No. 2008/0004743 A1, published Jan. 3, 2008 (Ex. 1006) (“Goers”).

II. ANALYSIS

A. *Principles of Law*

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the Federal Circuit has “repeatedly emphasized that an obviousness inquiry requires examination of all four *Graham* factors and that an obviousness determination can be made only after consideration of each factor.” *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1335 (Fed. Cir. 2016).

We note that, with respect to the fourth *Graham* factor, the current record in this proceeding does not include any argument or evidence directed to secondary considerations of nonobviousness. The analysis below addresses the first three *Graham* factors.

B. *Level of Ordinary Skill in the Art*

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner contends that a person of ordinary skill in the art (“POSITA”) at the time of the invention of the ’270 patent would have had “a bachelor’s degree in an engineering related field, such as material science, mechanical engineering, electrical engineering, or physics, and a minimum of two to three years of experience in the field of integrated circuit processing and fabrication techniques.” Pet. 19.

At this stage of the proceeding, Patent Owner does not dispute Petitioner’s position. Prelim. Resp. 21.

For purposes of this Decision, we adopt Petitioner’s proposal as reasonable and consistent with the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

C. Claim Construction

For petitions such as this one, filed after November 13, 2018, we apply the same claim construction standard “used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b),” which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 83 Fed. Reg. 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (20⁶19)). Under the *Phillips* standard, the “words of a claim are generally given their ordinary and customary meaning,” which is “the

⁶ We observe that the ’270 patent provides “DEFINITIONS” that include some of these terms such as “superabrasive” (Ex. 1001, 4:9–22), “sharp portion” (*id.* at 4:55–5:5), and “attitude” (*id.* at 5:21–27).

meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

Petitioner proposes constructions for terms: “superabrasive,” “protrusion,” “sharp portion,” and “attitude.” Pet. 20–21. “For purposes of this Preliminary Response only, Patent Owner adopts Petitioners’ proposed claim constructions.” Prelim. Resp. 22. We discern constructions of these claim phrases or others are not required for the purposes of this Decision. *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. Ground 1: Claims 1 and 3–8 as Obvious over Chou in View of Sung ’479

1. Chou (Ex. 1004)

Chou is a U.S. Patent Application Publication that is directed generally to a grinding tool and a method for fabricating the same that can improve the precision and lifetime of products, reduce the cost of production, and enhance machining efficiency. Ex. 1004 ¶ 2.

Figure 5D of Chou is provided below:

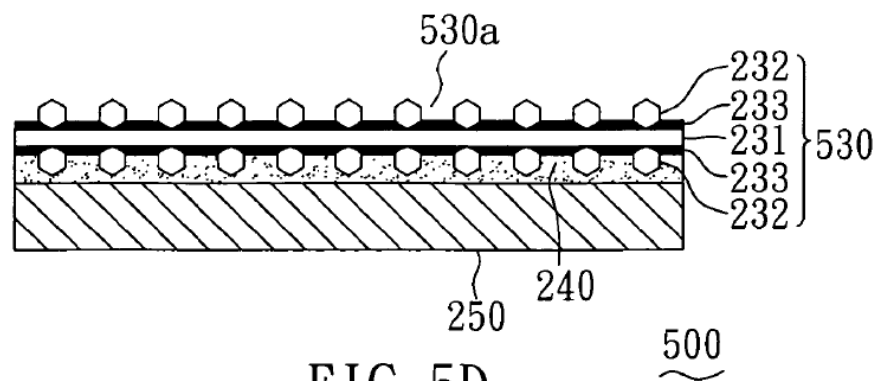


FIG. 5D

Ex. 1004, Fig. 5D. Figure 5D discloses grinding tool 500 with grinding plate 530, working surface 530a, abrasive particles 232, combining layer 233, and soft substrate 231. *Id.* ¶ 54. The abrasive particles can be directly formed on the surface of the soft substrate by brazing, sintering, or electroplating. *Id.* ¶ 9. Backplane 250 is retained on a non-working surface of grinding plate 530 via adhesive layer 240. *Id.* ¶ 56.

2. *Sung '479 (Ex. 1005)*

Sung '479 is a U.S. Patent Application Publication that generally describes methods “for making a low-melting point superabrasive tool having a plurality of superabrasive particles.” Ex. 1005, code (57) (Abstract). For these methods, Sung '479 further discloses that

[i]t may also be beneficial for the superabrasive particles to protrude from the solidified braze layer to a predetermined height or series of heights that is/are along a designated profile. Numerous configurations for designated profiles are possible, depending on the particular use of the superabrasive tool. In one aspect, the *designated profile may be a plane*. In planar profiles, the highest protruding points of the superabrasive particles are intended to be substantially level. It is important to point out that, though it is preferred that these points align with the designated profile, there may be some height deviation between superabrasive particles that occur due to limitations inherent in the manufacturing process.

Id. ¶ 69 (emphasis added). Sung '479 teaches that “the plurality of superabrasive particles [may be] . . . arranged such that their tips vary from the designated profile by from about 1 microns.” *Id.* ¶ 72.

3. *Analysis of Independent Claim 1*

Petitioner contends that Chou in View of Sung '479 renders obvious claim 1. Pet. 21–45. Patent Owner disagrees. Prelim. Resp. 25–41.

a) [1Pre] A CMP pad dresser, comprising:

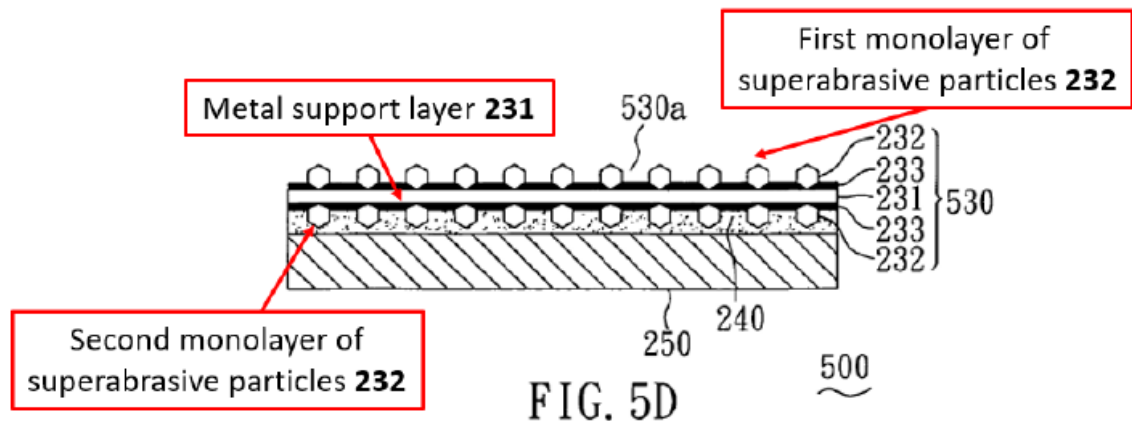
To the extent the preamble is limiting, Petitioner contends that Chou teaches grinding or polishing tools that a POSITA would have recognized to be used as a CMP pad dresser. Pet. 22–23 (citing Ex. 1004 ¶¶ 4, 7–9; Ex. 1002 ¶¶ 87, 91–92).

At this stage, Patent Owner does not specifically contest Petitioner's contentions with respect to the preamble.

Based on the preliminary record, Petitioner has provided sufficient explanation and supporting evidence that Chou teaches or suggests “a CMP pad dresser” for the purposes of institution.⁷ *See* Pet. 22–23.

b) [1A] a first monolayer of superabrasive particles disposed on and protruding from one side of a metal support layer,

For these limitations, Petitioner relies on Chou and provides an annotated version of Chou's Figure 5D, reproduced below.



Pet. 25. Petitioner's annotated Figure 5D marks portions of grinding tool 500 with "Metal support layer 231," "First monolayer of superabrasive particles 232," and "Second monolayer of superabrasive particles 232." *Id.*

⁷ We have not made a determination as to whether the preamble is or is not limiting.

Referring to Chou's Figure 5D, Petitioner contends that Chou discloses a CMP pad dresser with a monolayer of superabrasive particles 232 (e.g., diamond particles) disposed on and protruding from the working surface 530a side of metal substrate 231. Pet. 23–25 (citing Ex. 1004 ¶¶ 9, 22, 38–44, 51, 54–58; Ex. 1002 ¶¶ 96, 100). Petitioner also argues that Sung '479 teaches reverse casting methods for CMP pad dressers that form a monolayer of superabrasive particles. Pet. 25 (citing Ex. 1005 ¶ 82, Figs 7–10).

At this stage, Patent Owner does not specifically contest Petitioner's contentions with respect to these limitations.

Based on the current record, Petitioner has provided sufficient explanation and supporting evidence that Chou alone, or in combination with Sung '479, teach or suggest these limitations. For example, we observe that Chou teaches grinding plate 530 includes a plurality of abrasive particles 232 “formed on the surface of the combining layer 233 (in the present embodiment, the combining layer 233 is a metal layer) by brazing of metals.” Ex. 1004 ¶ 54. Further, as shown in Figure 5D, abrasive particles 232 form a layer and protrude from combining layer 233. *See In re Aslanian*, 590 F.2d 911, 914 (CCPA 1979) (“[A] drawing in a utility patent can be cited against the claims of a utility patent application even though the feature shown in the drawing was unintended or unexplained in the specification of the reference patent.”).

c) *[1B] wherein the difference in protrusion distance between the highest protruding tip and the second*

highest protruding tip of the monolayer of superabrasive particles is less than or equal to about 50 microns

(1) Petitioner's Contentions

For this limitation, Petitioner acknowledges that Chou “does not explicitly teach that the difference in protrusion distance between the two highest protruding tips is less than or equal to about 50 microns.” Pet. 28–29. Petitioner, however, contends Chou teaches that “the first monolayer of particles 232 are designed to participate in the grinding action, which a POSITA would have recognized to be achievable by reducing the protrusion distance differences between the particles.” *Id.* at 28. Petitioner adds that a POSITA would have readily understood that for all of the abrasive particles to be performing the machining action, the difference in the protrusion distance between the particles should be small.” *Id.* at 30 (citing Ex. 1002 ¶ 109).

Petitioner asserts that Sung '479 teaches tip height variations of only 2 microns or less across all superabrasive particles. Pet. 30–31; Ex. 1002 ¶¶ 105–125. Petitioner argues this is because Sung '479 discloses superabrasive particles may vary in tip height from a “designated profile” by less than about 1 micron (i.e., 2 microns tip-to-tip). *Id.* (citing Ex. 1005 ¶ 72). According to Petitioner, Sung '479's “designated profile” refers to a predetermined height for the superabrasive particles to protrude from the solidified braze layer. *Id.* at 31 n.8 (citing Ex. 1005 ¶ 69). Applying Sung '479's teachings to Chou, Petitioner argues that “a POSITA would have been motivated to achieve tip height variations in superabrasive tools that are as small as possible (e.g., to be within 2 microns) to improve the tool's performance.” Pet. 33 (citing Ex. 1002 ¶ 115). Petitioner adds that

[a] POSITA would have readily found it obvious that the two highest protruding points have as precisely leveled protrusion distances, based on the well-recognized benefits of a precisely leveled surface. And a POSITA would have been able to achieve such precisely leveled CMP pad dressers with a reasonable expectation of success.

Id. at 33–34 (citing Ex. 1002 ¶ 115).

(2) *Patent Owner's Contentions*

Patent Owner contends that Petitioner cannot rely on Chou's figures to teach that Chou's particles are of the same height, especially for a numerical range recited in claim 1. Prelim. Resp. 28–29 (citing *Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc.*, 222 F.3d 951, 956 (Fed. Cir 2000)).

Patent Owner further asserts that Sung '479 does not expressly discuss “highest protruding tip,” a “second highest protruding tip,” or any “difference” between them, as required by claim 1. Prelim. Resp. 29. Patent Owner adds that Sung '479 “does not equate ‘predetermined height’ or ‘designated profile’ with ‘protrusion distance,’ as recited in the claim language.” *Id.* at 30.

Patent Owner further argues that the testimony of Petitioner's expert, Dr. Shanfield, submitted in this proceeding contradicts the testimony provided in his declaration and deposition from the Samsung Litigation. Prelim. Resp. 30–32 (citing Ex. 2002 ¶ 110; Ex. 2003, 121:15–21). According to Patent Owner, “as reflected in Dr. Shanfield's declaration submitted in the underlying litigation, Dr. Shanfield opined that the term ‘tip variation’ is purportedly indefinite because, in his view, the ‘tip variation’ limitation ‘can also be reasonably interpreted to mean that the tip-to-

designated profile variation of the plurality of superabrasive particles is from ‘about 5 microns to about 100 microns.’” *Id.* at 31 (emphasis omitted).

Additionally, Patent Owner contends that Petitioner has only shown one possible teaching from Sung ’479, which is insufficient to demonstrate that the difference in protrusion distance between the highest protruding tip and the second highest protruding tip of the monolayer of superabrasive particles will *necessarily* be true in every instance where “the plurality of superabrasive particles is arranged such that their tips vary from the designated profile by less than about 1 microns,” as stated in Sung ’479. Prelim. Resp. 32–33. Patent Owner further provides an example where a designated profile is a flat line but is not parallel to the base of the CMP pad dresser. *Id.* at 33. Patent Owner contends that “[t]his designated profile may be defined by heights ranging from 1 micron to 100 microns.” *Id.*

Patent Owner also argues that Petitioner fails to provide sufficient motivation to combine Chou and Sung ’479 because: (1) Chou is not analogous art and makes no mention of the CMP process or CMP pad dressers (Prelim. Resp. 35); (2) Petitioner has not shown that combining Chou and Sung ’479 would lead to the benefits of a leveled height of abrasive particles (*id.*); (3) Petitioner provides no reasoning for a POSITA to look at Sung ’479’s low-melting point braze “to solve problems purportedly already solved by Chou” regarding warping and abrasive particle heights (*id.* at 36); (4) Petitioner provides no reasoning as to why a POSITA would combine references simply because they teach attaching a monolayer of diamond particles to both sides of a substrate (*id.*); and (5) Petitioner does not explain why “it would have been a trivial modification by POSITA to level the heights of the Chou’s abrasive tool to the precision as disclosed by Sung ’479” (*id.* at 36–38).

Patent Owner adds that Petitioner has not sufficiently explained how a POSITA would have been able to combine Chou and Sung '479 with a reasonable expectation of success. Patent Owner argues that

Petitioners give no indication how a POSITA would combine the “designated profile” aspects of Sung '479 with Chou's two-sided grinding tool or why the results of the combination would be predictable. For example, Petitioners fail to address whether protrusion distances of particles would be the same or different on opposite sides of the CMP pad dresser and/or how similarities or differences in such protrusion distances on opposite sides of a CMP pad dresser might affect warpage.

Prelim. Resp. 37–38.

Finally, Patent Owner contends that the Petition lacks the required particularity for institution because the Petition does not explain

how the statement in Sung '479 that “a tip of each of the plurality of superabrasive particles aligns along a designated profile with a tip variation of from about 5 microns to about 100 microns” is interpreted in view of Dr. Shanfield's conflicting testimony, or how “highest” versus “second highest” in the challenged claims is interpreted in view of Dr. Shanfield's conflicting testimony.

Prelim. Resp. 40–41; *see id.* at 38–41 (citing Ex. 2002 ¶¶ 81, 108, 114).

(3) Discussion

The preliminary record better supports Petitioner at this juncture. To start, we agree with Petitioner that Chou is analogous art. The title of the '270 patent is “CMP Pad Dresser Leveled Tips and Associated Methods.” The Specification discloses CMP which includes the use of a polishing pad in combination with an abrasive slurry for the manufacture of silicon wafers (Ex. 1001, 1:17–26) and discloses further that “while the above disclosure refers primarily to CMP pad dressers, other precision grinding and/or abrading tools are considered to be within the present scope.” Ex. 1001, 17:8–12. Chou discloses “[t]he present invention relates to a grinding tool”

for use in “ultra-precision machining technologies,” for example, grinding and polishing wafers. Ex. 1004 ¶¶ 1–2, 4. Thus, it is clear that the claimed invention and Chou are in the same field of precision grinding and/or abrading tools.

Next, as Petitioner points out, we observe Chou teaches expressly the importance of adjusting the height of the abrasive particles to ensure performance of all abrasive particles in machining. Ex. 1004 ¶ 17. As Petitioner observes, Chou does not disclose explicitly the difference in protrusion distance between the two highest protruding tips is less than or equal to about 50 microns. Pet. 28.

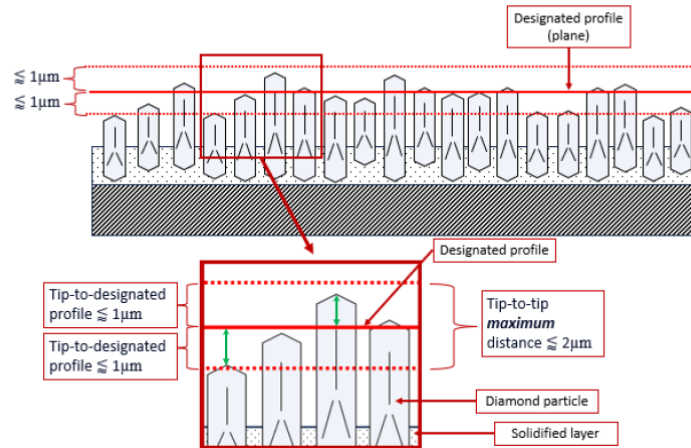
Turning to Sung ’479, we discern that Sung ’479 teaches the plurality of superabrasive particles may be configured to uniformly distribute frictional forces across substantially all superabrasive particles. . . . *One potentially useful parameter may include the height that the superabrasive particles protrude above the solidified braze layer.* A superabrasive particle that protrudes to a significantly greater height as compared to other superabrasive particles will experience a greater proportion of the impinging mechanical forces, and is thus more prone to pull out of the solidified braze layer. Thus an even height distribution of superabrasive particles may function to more effectively preserve the integrity of the superabrasive tool as compared to tools lacking such an even height distribution. Accordingly, *the superabrasive particle tips may be leveled to spread the mechanical forces impinging on the tool across substantially all of the particles.*

Ex. 1005 ¶¶ 66–67 (emphases added). Sung ’479 further teaches that “[i]t may also be beneficial for the superabrasive particles to protrude from the solidified braze layer to a predetermined height or series of heights that is/are along a *designated profile*.” *Id.* ¶ 69 (emphasis added). For “designated profiles,” Sung ’479 teaches that “[n]umerous configurations

. . . are possible, depending on the particular use of the superabrasive tool . . . [but] *[i]n planar profiles, the highest protruding points of the superabrasive particles are intended to be substantially level.*” *Id.* (emphasis added).

Sung ’479 further discloses “though it is preferred that these points align with the designated profile, there may be some height deviation between superabrasive particles that occur due to limitations inherent in the manufacturing process.” *Id.* Sung ’479 teaches that “when referring to the designated profile, it should be noted that the term ‘tip’ is intended to include the highest protruding point of a superabrasive particle, whether that point be an apex, an edge, or a face.” *Id.* ¶ 72. Sung ’479 adds that “in one aspect a majority of the plurality of superabrasive particles are arranged such that their tips vary from the designated profile by from about 1 micron to about 150 microns.” *Id.*

To Patent Owner’s point, Sung ’479 does not expressly disclose a difference in protrusion distance between the highest protruding tips is less than or equal to about 50 microns, as required by claim 1 of the ’270 patent. Nonetheless, Petitioner’s expert, Dr. Shanfield explains that Sung ’479 teaches that “the designated profile may be a plane.” Ex. 1002 ¶ 113 (citing Ex. 1005 ¶ 69). Indeed, Dr. Shanfield provides an example of the tip-to-tip distance based on a plane as the designated profile. Dr. Shanfield’s figure from paragraph 113 of his declaration is reproduced below:



The figure above includes diamond particles protruding from a solidified layer, and a designated profile as a red line parallel to the solidified layer. Ex. 1002 ¶ 113. Dr. Shanfield testifies the figure further shows “a number of diamond particles in a CMP pad dresser, where each diamond particle protrudes to a height within 1 micron above or below the designated profile.” *Id.* As shown, two green arrows indicate the tip distance of 1 micron from two tips as measured from the designated profile plane. *Id.* Based on these distances, Dr. Shanfield testifies that Sung ’479 teaches a “maximum tip-to-tip distance is less than about 2 microns.” *Id.* (citing Ex. 1005 ¶¶ 9, 72). In this regard, we credit Dr. Shanfield’s testimony as sufficiently well-reasoned and supported by Sung ’479 for the purposes of institution.

Further, we disagree with Patent Owner that Petitioner and Dr. Shanfield incorrectly equate the term “designated profile” to the term “protrusion distance” to make it read on the claim language. Prelim. Resp. 29. As shown in the figure from paragraph 113 of Dr. Shanfield’s declaration, Dr. Shanfield does not “equate” the designated profile to the protrusion distance. Rather, Dr. Shanfield reasons that the designated profile provides a frame of reference from which to measure “the difference in

protrusion distance between the highest protruding tip and the second highest protruding tip of the monolayer of superabrasive particles” based on Sung ’479’s disclosure.

In addition, based on the preliminary record, Dr. Shanfield’s testimony in this proceeding is not at odds with his testimony in the Samsung Litigation. *See* Exs. 2002–2003. First, Dr. Shanfield’s testimony in the Exhibit 2002 declaration is directed to U.S. Patent Nos. 9,138,862 (the “’862 Patent”) and 9,724,802 (the “’802 Patent”), not to the ’270 patent. Ex. 2002 ¶ 3. Dr. Shanfield states clearly that his declaration in Exhibit 2002 provides “analysis and conclusions regarding the level of ordinary skill in the art for the ’862 and ’802 Patents, and the construction of certain claim terms in the ’862 and ’802 Patents.” *Id.* ¶ 4. The specific terms discussed in paragraphs 105–117 are shown in the chart provided in paragraph 105 of Exhibit 2002:

Claims	Term
’802 Patent	
1	“wherein a tip of each of the plurality of superabrasive particles aligns along a designated profile with a tip variation of from about 5 microns to about 100 microns”
13	“wherein the highest protruding tip of each of the plurality of superabrasive particles aligns along the designated profile with a tip variation of from about 10 microns to about 50 microns”
14	“wherein the highest protruding tip of each of the plurality of superabrasive particles align along the designated profile with a tip variation of from about 20 microns to about 40 microns”
15	“wherein the highest protruding tip of each of the plurality of superabrasive particles align along the designated profile with a tip variation of less than about 20 microns”

Ex. 2002 ¶ 105. As such, Dr. Shanfield’s testimony in Exhibit 2002 is directed to these claims of the ’802 patent, rather than to “the difference in protrusion distance between the highest protruding tip and the second highest protruding tip of the monolayer of superabrasive particles” limitation

recited in claim 1 of the '270 patent. This is further confirmed by the deposition transcript from the Samsung Litigation where the questioning attorney confirms that the discussion with Dr. Shanfield was focused on the “tip variation terms” and not protrusion distance terms. *See* Ex. 2003, 118:17–124:23, 124:2–11 (“Q. I’m with you and let me tell you what I’m not trying to do. I’m not trying to trick you and say you’re now testifying about your difference in protrusion distance terms, okay, that’s not my point. My point is, the difference in protrusion distance terms measure from the height of one tip to the height of another tip, that’s all I’m asking.”).

Furthermore, in the instant proceeding, Sung '479's disclosure sufficiently supports Dr. Shanfield's testimony for the purposes of this Decision. Specifically, Sung '479 teaches a designated profile may be a *plane* and “[i]n planar profiles, the highest protruding points of the superabrasive particles are intended to be *substantially level*.” Ex. 1005 ¶ 69 (emphasis added). Sung '479 further expressly teaches that the distance from the tip of a superabrasive particle to the planar profile may be 1 micron to about 150 microns. *Id.* ¶ 72. Dr. Shanfield relies upon this express disclosure to provide an example of a planar profile with superabrasive particles with tips varying from the designated planar profile by 1 micron above and below the profile. Given this specific example, based on the express disclosure in Sung '479, we are persuaded at this juncture that Petitioner has provided sufficient arguments and evidence that Sung '479 teaches or suggests (inherently or otherwise) “the difference in protrusion distance between the highest protruding tip and the second highest protruding tip of the monolayer of superabrasive particles is less than or equal to about 50 microns.” Nevertheless, the parties are encouraged to

further develop the record on this issue after institution by, for example, cross-examination of Dr. Shanfield regarding Sung '479's teachings.

Regarding the reasons to combine Chou and Sung '479, Petitioner explains sufficiently, for the purposes of institution, that a "POSITA would have been motivated to combine references that recognize benefits of having leveled height of abrasive particles." Pet. 34–35 (citing Ex. 1004 ¶ 17; Ex. 1005 ¶¶ 3, 66–67, 72; Ex. 1002 ¶¶ 119–120). Patent Owner contends that Petitioner has not explained how Chou combined with Sung '479 would lead to the benefits of a leveled height of abrasive particles. Prelim. Resp. 35. Yet, Sung '479 expressly teaches specific parameters for the tip height level of superabrasive particles that provide improved machining, which Petitioner and Dr. Shanfield explain Chou does not expressly disclose. Ex. 1005 ¶¶ 66–67, 69, 72; *see* Ex. 1002 ¶¶ 119–120. Thus, the disclosures in Chou and Sung '479, and Dr. Shanfield's testimony support Petitioner's position that a "POSITA would have considered leveling the height of the superabrasive particles to the level taught by the prior art references, such as a tip-to-tip variation that is less than about 2 microns." Pet. 35.

Patent Owner further contends that Petitioner has not explained how the two different brazing methods in Chou and Sung '479 demonstrate that a POSITA would be able to combine their teachings with a reasonable expectation of success. Prelim. Resp. 37. Patent Owner assert "Petitioners give no indication how a POSITA would combine the 'designated profile' aspects of Sung '479 with Chou's two-sided grinding tool or why the results of the combination would be predictable." *Id.* But, Petitioner relies on the testimony of Dr. Shanfield, who testifies that

Chou and Sung'479 use a similar brazing method for attaching abrasive particles to the metal substrate. Therefore, a POSITA

would have been able to combine the disclosures with a reasonable expectation of success. EX1004, [0039] (“Herein, the grinding plate 330 comprises: a soft substrate 231 having a working surface 231a and a non-working surface 231b and a plurality of abrasive particles 232 formed on the working surface 231 a and the non-working surface 231 b of the soft substrate 231 by brazing.”); EX1005, [0013] (“The superabrasive tool may include a plurality of superabrasive particles coated with an intermediate layer and bonded together with a braze...”).

Ex. 1002 ¶ 124 (emphasis added). Based on the preliminary record, Dr. Shanfield’s testimony appears to be supported by the cited disclosures in Chou and Sung ’479. Nevertheless, the parties may further develop the record on this issue after institution.

Patent Owner further argues that the Petition lacks the required particularity pursuant to 35 U.S.C. § 312(3) because the Petition does not explain “Dr. Shanfield’s conflicting testimony.” Prelim. Resp. 40–41; *see id.* at 38–41 (citing Ex. 2002 ¶¶ 81, 108, 114). As discussed above, we do not view Dr. Shanfield’s testimony as conflicting or contradictory, and further determine that the Petition identifies, in writing and with particularity, each claim challenged (i.e., claims 1–8), the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim. *See, generally* Pet.; *see* 35 U.S.C. § 312(3).

d) [1C] a second monolayer of superabrasive particles disposed on the metal support layer on an opposite side from the first monolayer,

Referring to Chou’s Figure 5D, Petitioner asserts that “a single layer of particles 232 is disposed on the side of the non-working surface 530b of the metal substrate 231 that is opposite the working surface 530a.” Pet. 39–40 (citing Ex. 1004 ¶¶ 9, 38–44, 51, 54–58; Ex. 1002 ¶ 128). Petitioner adds

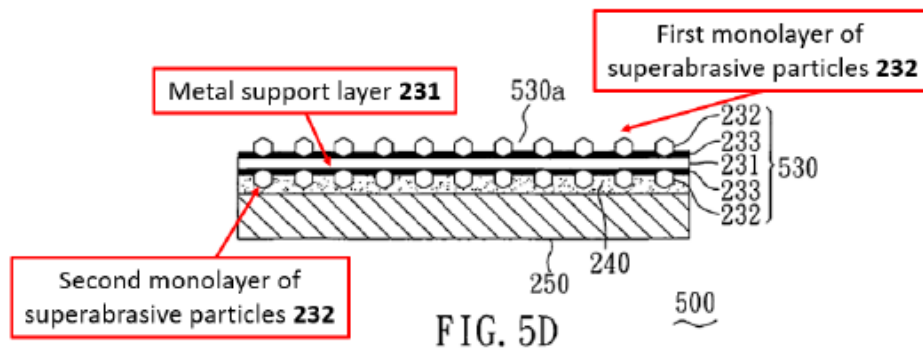
that “the second monolayer of superabrasive particles 232 is illustrated as a single layer . . . [and] meets the claimed ‘monolayer.’” *Id.*

At this stage, Patent Owner does not specifically contest Petitioner’s contentions with respect to these limitations.

Based on the current record, Petitioner has provided sufficient explanation and supporting evidence that Chou teaches or suggests these limitations for the purpose of institution. *See* Pet. 39–41.

e) [1D] wherein the superabrasive particles of the second monolayer are positioned to have substantially the same distribution as the superabrasive particles of the first monolayer

For these limitations, Petitioner refers to an annotated version of Chou’s Figure 5D, reproduced below.



Pet. 42. Petitioner’s annotated Figure 5D marks portions of grinding tool 500 with “Metal support layer 231,” “First monolayer of superabrasive particles 232,” and “Second monolayer of superabrasive particles 232” in Chou’s figure. *Id.* Referring to Chou’s Figure 5D, Petitioner contends that Chou discloses “the superabrasive particles of the first and the second monolayers are positioned to have substantially the same distribution.” *Id.* (citing Ex. 1004 ¶¶ 38–40, 54–59, Figs. 3A–3D, 5A–5D). Petitioner further relies on the testimony of Dr. Shanfield, who testifies that

a POSITA would have known from Chou that the deformation of the abrasive tool could be reduced by having superabrasive particles with substantially the same distribution on both the working and non-working surfaces and a POSITA would have been motivated to make such an arrangement.

Ex. 1002 ¶ 137. Dr. Shanfield explains that “Chou teaches that the benefit of providing the diamond particles on the working surface 530a and the non-working surface 530b is to reduce the warpage of the substrate caused by uneven shrinkage of each surface.” *Id.* ¶ 135 (citing Ex. 1004 ¶¶ 9, 39, 54).

At this stage, Patent Owner does not specifically contest Petitioner’s contentions with respect to these limitations.

Based on the current record, Petitioner has provided sufficient explanation and supporting evidence that Chou teaches or suggests these limitations for the purpose of institution. *See* Pet. 42–44.

f) [1E] a rigid support coupled to the second monolayer of superabrasive particles opposite the first monolayer.

For these limitations, Petitioner contends Chou teaches that epoxy resin 240 and/or stainless steel rigid support 250 may be coupled to the second monolayer of superabrasive particles 232 opposite the first monolayer of superabrasive particles 232. Pet. 44–45 (citing Ex. 1004 ¶¶ 12–16, 41–43, 49–52, 58, Figs. 3A–3D, 5A–5D).

At this stage, Patent Owner does not specifically contest Petitioner’s contentions with respect to these limitations.

Based on the current record, Petitioner has provided sufficient explanation and supporting evidence that Chou teaches or suggests these limitations for the purpose of institution. *See* Pet. 44–45.

g) *Conclusion*⁸

After review of the arguments and evidence, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that Chou in combination with Sung '479 renders claim 1 obvious.

4. *Analysis of Dependent Claims 3–8*

Dependent claims 3–8 depend, directly or indirectly, from independent claim 1. Ex. 1001, 18:12–38. Petitioner contends Chou in combination with Sung '479 disclose the limitations recited in each of claims 3–8. Pet. 45–48; *see id.* at 47.

Patent Owner does not address any of Petitioner's arguments regarding these specific limitations beyond what it has presented for claim 1.

After review of the arguments and evidence, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that Chou in combination with Sung '479 renders claims 3–8 obvious. *See* Pet. 45–48.

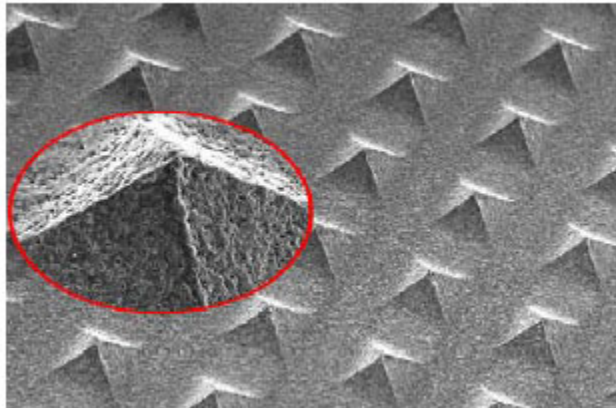
⁸ In addition to the arguments and evidence discussed above, Petitioner also presents arguments based on collateral estoppel for claim 1. *See* Pet. 14–15 (“[T]he Board found on November 4, 2015 that ‘claims 1-3, 5, 6, 8-12, and 17-19 [of the ’699 Patent] are anticipated by Chou’ The instant Petition relies on Chou for the limitations that are substantially identical to claim 1 of the ’699 Patent.”). Nevertheless, we have reviewed the preliminary record in the instant proceeding, and institute *inter partes* review based on our determination that Petitioner has shown a reasonable likelihood of prevailing on the challenges presented here. The parties are welcome to address collateral estoppel after institution to the extent that the issue is applicable. *See* Prelim. Resp. 25–27.

E. Ground 2: Claims 6 and 7 as Obvious over Chou in View of Sung '479 and SungECS

1. SungECS (Ex. 1007)

SungECS is a journal article titled “Polycrystalline Diamond (PCD) Shaving Dresser: The Ultimate Diamond Disk (UDD) for CMP Pad Conditioning.” Ex. 1007, 1. SungECS discloses that “[i]nstead of penetrating the pad surface with a brutal force of diamond grits, advanced diamond disk (ADD) is made by carving a disk of sintered polycrystalline diamond (PCD) layer to form cutting tips of predetermined shape and distribution.” *Id.*

Figure 1 of SungECS, reproduced below, depicts ADD cutting tips bonded monolithically in PCD matrix material. *Id.*



According to SungECS, “[t]he tailor made cutting tips with sharper angle can be formed with higher regularity than conventional diamond disks.” *Id.*

2. Discussion

Petitioner contends the combination of Chou, Sung '479, and SungECS renders obvious dependent claims 6 and 7. Pet. 48–53. Petitioner asserts that “to the extent Patent Owner argues neither Chou nor Sung '479 explicitly discloses the actual number of protruding tips, it was common knowledge that CMP pad dressers typically have tens of thousands of

superabrasive particles distributed thereon.” Pet. 48 (citing Ex. 1002 ¶¶ 146–148). Petitioner adds that

in light of (1) the large number of superabrasive particles that were known to be present on a CMP pad dresser as taught by SungECS and (2) the fact that each one of Sung’479’s diamond particles contact the CMP pad surface, the combination of Chou, Sung’479, and SungECS render obvious a CMP pad conditioner having the 10th highest protruding tip and the 100th highest protruding tip to be less than about 2 microns [apart] and meet the claimed “less than or equal to about 40 microns.”

Id. at 51–52 (citing Ex. 1002 ¶¶ 146–151). Petitioner provides several reasons a POSITA would have combined the teachings of Chou, Sung ’479, and SungECS. *Id.* at 52–53.

For this challenge, Patent Owner relies on the arguments presented for claim 1. Prelim. Resp. 41–42; *see, e.g., id.* at 42.

Based on the current record, Petitioner has established a reasonable likelihood that it would prevail in showing that the combination of asserted teachings in Chou, Sung ’479, and SungECS renders these claims obvious. *See* Pet. 48–53.

F. Ground 3: Claim 2 as Obvious over Chou in View of Sung ’479 and Goers

1. Goers (Ex. 1006)

Goers is a U.S. Patent Application Publication titled “Abrasive Articles, CMP Monitoring System and Method.” Ex. 1006, code (54). Goers “relates to abrasive articles useful in chemical-mechanical polishing (CMP).” *Id.* ¶ 1. Figure 1A of Goers, reproduced below, illustrates an abrasive article in the form of a CMP pad conditioning disk 2. *Id.* ¶ 23.

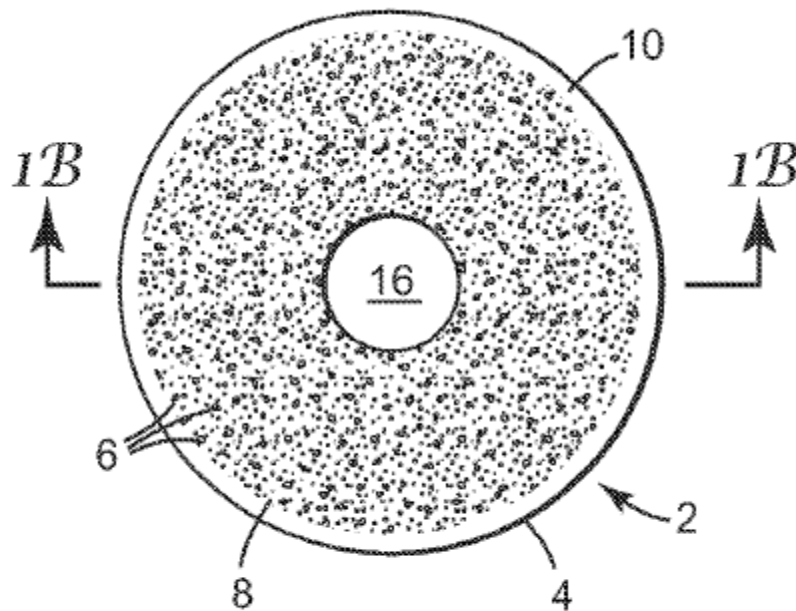


FIG. 1A

As shown in Figure 1A, abrasive article 2 includes substrate 4. *Id.*

¶ 24. The major surfaces of the article are overlaid with abrasive material 6. Abrasive material 6 may be affixed to one or both sides of the substrate using a matrix material 8. *Id.* ¶ 25.

2. Discussion

Claim 2 depends from claim 1. Petitioner contends that claim 2 would have been obvious over the combination of Chou, Sung '479, and Goers. Pet. 53–57. Among other things, Petitioner argues that “[r]ather than utilizing different sized superabrasive particles as Sung’479 teaches, another known way—as Goers teaches—was to utilize a particle free zone in the central region.” Pet. 56 (citing Ex. 1006 ¶ 30).

For claim 2, Patent Owner relies on arguments and evidence presented for independent claim 1. Prelim. Resp. 43 (“Petitioner’s conclusory statements that it would have been obvious to combine Goers with Chou and

Sung '479 to create a CMP pad dresser with a central, particle-free zone does not remedy the deficiencies of Chou and Sung '479 with respect to claim 1 discussed above in Section VII.A.1.”).

Based on the current record, Petitioner has established a reasonable likelihood that it would prevail in showing that the combination of the asserted teachings in Chou, Sung '479, and Goers renders claim 2 obvious. *See* Pet. 53–56.

III. 35 U.S.C. § 314(A) DISCRETION

Patent Owner, relying on *Fintiv*, *supra*, and *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential) (“*NHK Spring*”), contends we should deny institution under 35 U.S.C. § 314(a) based on the status of the Samsung Litigation. *See* Prelim Resp. 8–20; Prelim. Sur-reply 1–5. Petitioner disagrees. *See* Pet. 62–65; Prelim. Reply 1–5. For the following reasons, we decide not to deny institution on this basis.

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 Speed Techs., LLC v. Lee*, 579 U.S. 261, 273 (2016) (“[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 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”).

When determining whether to exercise discretion to deny institution in view of a parallel district court proceeding, we consider the following six factors (“*Fintiv* factors”):

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.

Fintiv, at 5–6. 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 the *Fintiv* factors, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review,” recognizing “there is some overlap among these factors” and “[s]ome facts may be relevant to more than one factor.” *Id.* at 6.

On June 21, 2022, the Director of the United States Patent and Trademark Office issued a Memorandum setting forth an “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation” (hereafter, “Guidance Memo”).⁹ The Guidance

⁹ Available at: https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

Memo states that “to benefit the patent system and the public good, the PTAB will not rely on the *Fintiv* factors to discretionarily deny institution in view of parallel district court litigation where a petition presents compelling evidence of unpatentability.” *Id.* at 2. The Guidance Memo explains that “[c]ompelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.* at 4.

In the analysis that follows, we first consider whether *Fintiv* factors 1–5 weigh in favor of denying institution, and, if so, we must also determine whether the Petition presents compelling merits. *See CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 5 (PTAB Feb. 27, 2023) (precedential) (“In circumstances where . . . the Board’s analysis of *Fintiv* factors 1–5 favors denial of institution, the Board shall then assess compelling merits.”).

A. Analysis of the Fintiv Factors

We consider each of the *Fintiv* factors. We then weigh the factors and take a holistic view of whether efficiency and integrity of the patent system are best served by denying or instituting review.

1. Factor 1: whether a stay exists or is likely to be granted if a proceeding is instituted

“A district court stay of the litigation pending resolution of the PTAB trial allays concerns about inefficiency and duplication of efforts,” which “has strongly weighed against exercising the authority to deny institution under [*NHK Spring*].” *Fintiv*, at 6. On the other hand, “[i]f a court has denied a defendant’s motion for a stay pending resolution of a PTAB proceeding, and has not indicated to the parties that it will consider a renewed motion or reconsider a motion to stay if a PTAB trial is instituted,

this fact has sometimes weighed in favor of exercising authority to deny institution under [*NHK Spring*].” *Id.* at 7–8.

Petitioner notes that on July 26, 2024, the Court *sua sponte* stayed the Samsung Litigation pending the Court’s resolution of Petitioner’s motion for transfer from the Eastern District of Texas to the Northern District of California. *See* Prelim. Reply 1 (citing Ex. 1021) (“It is therefore ORDERED that all proceedings in this case are STAYED pending the Court’s resolution Defendants’ Motion for Inter-District Transfer to the Northern District of California.”) (the “Transfer stay”). As of the date of mailing this Decision, this Transfer stay is still in effect. Petitioner asserts this stay weighs strongly against discretionary denial under *Fintiv*. *See id.* at 1–2.

Patent Owner takes a different view of the Transfer stay. Patent Owner argues the Transfer stay “is ***unrelated to the Petition*** and instead concerns a Motion for Inter-District Transfer.” Prelim. Sur-reply 1. According to Patent Owner, “*Fintiv* Factor 1 considers stays ***related to the substance of the Petition***, not ***completely unrelated*** stays.” *Id.* (citing *Fintiv*, at 6–9). We disagree with Patent Owner’s premise and conclusion.

There can be no reasonable dispute, and Patent Owner raises none, that Patent Owner’s Samsung complaint in the District Court asserts infringement of three patents — the ’270 patent at issue in this proceeding, and U.S. Patent Nos. 9,138,862 (“the ’862 patent”) and 9,724,802 (“the ’802 patent”). *See* Ex. 3004 ¶¶ 23–29; *see also id.* at pgs. 10 (Count I), 18 (Count II), 26 (Count III). The ’862 patent is the subject of IPR2024-00534. The ’802 patent is the subject of IPR2024-00535. Thus, contrary to Patent Owner’s argument, the Samsung complaint, and the

entered stay of proceedings to resolve the dispute created by the complaint, clearly relate directly to the substance of these three IPR proceedings.

We recognize the Transfer stay was put in place *sua sponte* by the District Court. *See, e.g.*, Prelim. Reply 1. We have not been directed to any evidence of a request for a stay by any party nor was there briefing concerning the stay. The District Court did not provide any specific reason for instituting the stay. The entirety of the Transfer stay Order states:

Defendants’ Motion for Inter-District Transfer to the Northern District of California, (Dkt. #38), is pending and fully briefed.

It is therefore **ORDERED** that all proceedings in this case are **STAYED** pending the Court’s resolution Defendants’ Motion for Inter-District Transfer to the Northern District of California. (Dkt. #38). Following the Court’s ruling on the motion to transfer, and as may be necessary, the Court shall enter a separate order providing a new trial date^[10] and any necessary pretrial deadlines.

Ex. 1021. We decline to speculate on the reason or reasons why the Transfer stay was entered.¹¹ Like all stays, however, as a matter of efficiency, it preserves the current status of the proceeding until a decision regarding the basis of the stay, here, a motion to transfer the case to a California court, is decided.

¹⁰ We have not been directed to any evidence in the proceeding before us that a specific trial date has been established in the Samsung Litigation. The District Court’s Scheduling Order submitted in this IPR proceeding states “Jury Selection and Trial” are at a date “[t]o be determined.” Ex. 1012, 5. Thus, a reference to a “new trial date” more accurately should be a reference to a “trial date.”

¹¹ There are many reasons why a stay may have been entered. *See, e.g.*, Rachel Bayefsky, Administrative Stays: Power and Procedure, Notre Dame Law Review, Vol. 97, No. 5, 1941–1984 (2022).

In addition to the Transfer stay currently in effect, two other requests for stays are, or will be, pending in Samsung Litigation.

a) *The TI Litigation and Stay*

In the TI Litigation, which is pending before the same District Court as the Samsung Litigation, Patent Owner filed a similar patent infringement complaint against Texas Instruments, Inc. (“TI”). *See* Ex. 3006. The same three patents at issue in the Samsung Litigation also are at issue in the TI Litigation. *See id.* The District Court granted TI’s motion for a stay of the TI Litigation based on TI’s Motion for Summary Judgment of Invalidity. *See* Ex. 1034. As of the date of mailing this Decision, this TI Litigation stay is still in effect.

In the Samsung Litigation, Petitioner has filed Motion to Stay Pending Resolution of a TI’s Motion for Summary Judgment of Invalidity. *See* Ex. 1025. This motion is pending. Petitioner also states that, even if the Transfer motion is denied, a stay of the Samsung Litigation is highly likely “because the parties have agreed that a stay would be proper until resolution of” TI’s Motion for Summary Judgment of Invalidity. Prelim. Reply 1–2; *see also* Ex. 1026, 8 (Patent Owner stating “Dr. Sung has already conceded by agreeing to stay [the Samsung Litigation] at the end of *Markman* briefing” in the Samsung Litigation).

The TI Litigation complaint was filed the same day (August 21, 2023) as the Samsung Litigation complaint. *See* Ex. 3006, 35 (the TI Litigation complaint); Ex. 3004, 35 (the Samsung Litigation complaint). The TI and Samsung Litigations are both pending before Judge Sean Jordan. The ’270 patent at issue in the present IPR proceeding also is the subject of the alleged infringement in the TI Litigation. *See* Ex. 3006 ¶ 23; Count III, p. 26). The same patents that are involved in the related ’534 and ’535 IPRs

also are involved in the TI Litigation. *See id.* ¶¶19, 21; *see also id.* at Count I, p. 10; Count II, p. 18.

In the TI Litigation, Judge Jordan granted TI’s Motion to Stay the Case Pending Resolution of TI’s Motion for Summary Judgment of Invalidity of the Asserted Patents. *See* Ex. 1024, 2 (“The Court concludes that this core question is ripe for adjudication and can be resolved without the need for further discovery or claim construction.”).

Petitioner asserts “Patent Owner acknowledged that the stay [in the Samsung Litigation] would be proper, but argued that such stay should be entered at the end of Markman briefing,” which occurred on July 17, 2024. Prelim. Reply 2 (citing Ex. 1026, 8¹²); *see also* Ex. 1032, 15 (Patent Owner stating to the District Court it “is not opposed to staying [the Samsung Litigation] at the right time, even prior to the *Markman* hearing, but believes that the proper stopping point is at the completion of claim construction briefing”).

Patent Owner disputes that it has agreed to stay the Samsung Litigation pending resolution of the TI Litigation’s summary judgment motion, because “no such agreement was reached and Petitioner incorrectly interpreted a proposal, which Petitioner rejected, as an agreement.” Prelim. Sur-reply 2 (citing “Ex. 1021 [sic] at 8”)¹³; *see also* Prelim. Resp. 12 (“The parties met and conferred on a proposed stay related to a motion for summary judgment but no agreement was reached.”).

¹² Here and elsewhere, we cite to the Exhibit page number (page 8), not the document page number (page 5).

¹³ The citation to Exhibit 1021 is an error. Exhibit 1021 is a 1-page Order from the District Court staying the Samsung Litigation pending Petitioner’s motion to transfer that litigation to California.

*b) Petitioner's Intent to File a Motion to Stay
Upon Institution of the IPRs*

Petitioner further argues there is a “very high” likelihood that the Court in the Samsung Litigation will extend the current stay pending resolution of the three related IPR proceedings (IPR2024-00533, IPR2024-00534, and IPR2024-00535). Prelim. Reply 3. Petitioner has notified the Court of its intent to file a motion for such a stay if the Board institutes review. *See id.* (citing Ex. 1027).

According to Patent Owner, a stay in the Eastern District of Texas pending the outcome of the three related IPR proceeding “is extremely unlikely,” as that Court has denied such motions more than 60% of the time since August 2019. Prelim. Resp. 11–12 (citing Ex. 2001). Based on the data in the record before us, however, in patent cases involving the Asserted Patents in the Samsung and TI Litigations, Judge Jordan has granted stays 100% of the time.

c) Conclusion for Fintiv Factor 1

As described above, the current stay of the Samsung Litigation involves a motion to transfer the that case from Texas to California. We have not been directed to any persuasive evidence that suggests the stay will expire or be decided soon. Moreover, based on the record before us as discussed above, Judge Jordan is inclined to grant stays where appropriate, even when not asked to do so, such as the *sua sponte* stay entered pending a decision on the Transfer motion and still in effect in the Samsung Litigation. Judge Jordan also granted a requested stay in the related TI Litigation involving the validity of the same patents involved in this IPR proceeding and related IPR proceedings.

We determine a stay exists and the likelihood of a future or continuing stay is reasonably high. Thus, *Fintiv* factor 1 weighs against exercising our discretion to deny institution.

2. *Factor 2: proximity of the court’s trial date to the Board’s projected statutory deadline*

In the Petition, Petitioner asserts “no trial date is currently scheduled” in the Samsung Litigation, although “the Final Pretrial Conference is scheduled for September 3, 2025.” Pet. 63 (citing Ex. 1012, 5). Petitioner also argues the median time from filing to trial in the Eastern District of Texas is about 21 months. *See id.* (citing Ex. 1020). Thus, Petitioner expects trial in the Samsung Litigation will begin either “around” the Board’s statutory deadline for issuing a Final Written Decision in September 2025, or more likely “*after*” that deadline. *Id.* at 63 & n.11. Based on the mailing date of this Decision and the related Scheduling Order, our Final Written Decision in the proceeding before us and the two related IPR proceedings will be on or before mid-September 2025.

Patent Owner responds that the Court’s stay Order in the Samsung Litigation only “indicated that its previously-scheduled pretrial dates will remain and could change only as ‘*may be* necessary.’” Prelim. Sur-reply 1 (citing Ex. 1021). Patent Owner’s view is that *Fintiv* factor 2 “favors discretionary denial (or is neutral at worst),” because the Samsung Litigation trial date is “at or around the same time as the [September 2025] statutory deadline” for the Board’s Final Written Decision in this proceeding. *Id.* at 1–2 (citing *Fintiv*, at 9); *see* Prelim. Resp. 11–12 (citing Ex. 1012, 5). Patent Owner also disputes the data underlying Petitioner’s speculation as to when Judge Jordan might rule on the motion for summary judgment pending in the TI Litigation. *See* Prelim. Sur-reply 2–3 & n.1.

As discussed above, a specific trial date has not been scheduled in the Samsung Litigation, but the trial will likely conclude after any final decision in this IPR proceeding. This fact weighs against exercising our discretion to deny institution.

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

Petitioner argues the Samsung Litigation “is in its early stages, and the investment in it has been minimal.” Pet. 63 (citing Ex. 1012). As discussed above, the Samsung Litigation was stayed on July 26, 2024, and continues to be stayed at the time of issuing this Decision.

Patent Owner asserts in opposition that “the parties and the district court here have already invested substantial resources, and will have invested even more resources, in the parallel district court proceeding by the institution deadline of September 28, 2024.” Prelim. Resp. 13–14. In particular, according to Patent Owner, there has been “extensive, hard-fought third-party discovery already obtained, and continuing to be obtained, by both parties.” *Id.* Further: “[T]he parties have spent or will have spent considerable time and resources in completing claim construction,” with that briefing now having been completed despite the delay of the *Markman* hearing due to the Court’s stay. *See id.* at 14 (citing Ex. 1015, 2). Patent Owner asserts the Board has previously denied institution under *Fintiv*, on facts “very similar” to those presented here. *See id.* at 14–15 (citing *Cisco Sys., Inc. v. Ramot at Tel Aviv Univ. Ltd.*, IPR2020-00122, Paper 15, at 8–9 (PTAB May 15, 2020)).

Petitioner replies that the discovery disputes referenced in the Preliminary Response were “[s]ignificant” only in the TI Litigation, not the Samsung Litigation. Prelim. Reply 4–5 (section title modified) (citing

Exs. 1032–1035 (documents relating to Patent Owner’s attempt to obtain third party discovery from the 3M Company in Minnesota in connection with the TI Litigation). Petitioner concludes “Patent Owner’s purportedly significant expense in a different litigation involving a different party has limited bearing, if any, in the instant IPR.” *Id.* at 5. Petitioner further asserts “Patent Owner’s point is now moot” because the “parties are no longer ‘entrenched’ in any discovery due to the stay.” *Id.* at 4.

We find the parties have engaged in preliminary discovery in the Samsung Litigation. This preliminary discovery includes briefing on claim construction. Petitioner’s argument is persuasive that significant discovery occurred in the related TI Litigation, but there has been less discovery in the Samsung Litigation. We therefore conclude *Fintiv* factor 3 weighs against exercising our discretion to deny institution.

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

In the Petition, “Petitioner stipulates that if the IPR is instituted, Petitioner will not pursue the same grounds in the” Samsung Litigation. Pet. 64 (citing *Sand Revolution II LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative)). Petitioner argues *Fintiv* factor 4 therefore “favors institution.” *Id.*

Patent Owner responds that “Petitioner has not presented a meaningful *Sotera*-type stipulation and is thus free to assert substantially the same grounds of invalidity alleged in the Petition.” Prelim. Resp. 16. Patent Owner adds that even though Petitioners have not served invalidity contentions for the ’270 patent in the Samsung Litigation, it is reasonable to

conclude that Petitioners will make the same or similar arguments in the district court litigation. *Id.* at 17.

Based on the status of the Samsung Litigation, we have not been directed to any persuasive evidence that Petitioner has filed a substantive Answer in the Samsung Litigation. Petitioner has filed a Motion to Dismiss under Federal Rule of Civil Procedure 12(b)(6), or in the alternative, a Motion for a More Definite Statement under Federal Rule of Civil Procedure 12(e). *See* Ex. 3007. Thus, on the record before us, there is no persuasive evidence of what substantive defenses Petitioner will raise in the Samsung Litigation. There is no persuasive evidence that Petitioner will present the same theories in the District Court as in this IPR proceeding, as asserted by Patent Owner. *See* Prelim. Sur-reply 5.

The failure of any evidence of an overlap in the substantive invalidity issues in the Samsung Litigation and in this IPR proceeding under *Fintiv* factor 4 weighs against exercising our discretion to deny institution.

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

Petitioner is the Defendant in the Samsung Litigation. *See* Pet. 64; Prelim. Resp. 19. Petitioner contends “[t]his factor should not be a basis for denying institution.” Pet. 64. Patent Owner contends this factor “favors discretionary denial.” Prelim. Resp. 19 (citing *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, 15 (PTAB May 13, 2020)).

The fact that Petitioner is the same as the defendant in the Samsung Litigation weighs in favor of exercising our discretion to deny institution.

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

Petitioner argues *Fintiv* factor 6 “favors institution” because the evidence of unpatentability presented in the Petition “is compelling.”

Pet. 64. Petitioner cites the Guidance Memo, which states “PTAB will not deny institution . . . under *Fintiv* . . . when a petition presents compelling evidence of unpatentability.” Pet. 64 (quoting Guidance Memo, at 9).

Patent Owner responds that “there are substantial issues with Petitioners’ analysis,” such that “even if the Board were to determine that Petitioners met the lower threshold for instituting IPR, the evidence does not rise to the level of being ‘compelling’” per the Guidance Memo. Prelim. Resp. 19–20. We agree with Patent Owner.

Based on our review of the arguments and evidence on the merits, we determine Petitioner has demonstrated a reasonable likelihood that it would prevail in this IPR proceeding on at least one claim. We do not find, however, that Petitioner presents “compelling” evidence of unpatentability per the Guidance Memo.

Accordingly, *Fintiv* factor 6 is neutral in deciding whether to exercise our discretion to deny institution.

B. Conclusion

As noted in the *Fintiv*, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Fintiv*, at 6. The Samsung Litigation has been stayed. Based on the evidence of the other *Fintiv* factors, as discussed above, we determine that efficiency and integrity of the patent system are best served by not exercising our discretion to deny institution based on the Samsung Litigation.

IV. CONCLUSION

After considering the Petition and the Preliminary Response, and accompanying exhibits and testimony, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '270 patent is unpatentable. Accordingly, we institute an *inter partes* review of claims 1–8 on all grounds presented in the Petition with respect to these claims. 35 U.S.C. § 314(a).

At this preliminary stage, the Board has not made a final determination with respect to the patentability of the challenged claims or any underlying factual or legal issue. The Board's final determination will be based on the record as developed during the *inter partes* review.

V. 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 1–8 of the '270 patent 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(b), *inter partes* review of the '270 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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