

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.,

Petitioners,

v.

HARBOR ISLAND DYNAMIC, LLC,

Patent Owner.

Patent No. 9,147,609

Filing Date: March 8, 2012

Issue Date: September 29, 2015

Inventors: Hadi Jebory and David J. Howard

Title: THROUGH SILICON VIA STRUCTURE, METHOD OF
FORMATION, AND INTEGRATION IN SEMICONDUCTOR SUBSTRATE

PATENT OWNER'S PRELIMINARY RESPONSE

Case No. IPR2024-01404

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LIST OF EXHIBITS

Exhibit No.	Description of Document
2001	Docket Control Order, Dkt. 38, in <i>Harbor Island Dynamic, LLC v. Samsung Elecs. Co.</i> , Case No. 2:24-cv-00140-JRG-RSP (E.D. Tex. Aug. 5, 2024)
2002	Order Denying Samsung’s Motion to Stay Pending <i>Inter Partes</i> Review, Dkt. 62, in <i>Harbor Island Dynamic, LLC v. Samsung Elecs. Co.</i> , Case No. 2:24-cv-00140-JRG-RSP (E.D. Tex. Dec. 19, 2024)
2003	Defendants’ Invalidity Contentions, served on September 26, 2024, in <i>Harbor Island Dynamic, LLC v. Samsung Elecs. Co.</i> , Case No. 2:24-cv-00140-JRG-RSP (E.D. Tex.)
2004	Merriam-Webster Dictionary definition for the word “taper.”
2005	Dictionary.com definition for the word “tapered.”
2006	Oxford English Dictionary definition for the word “tapered.”

I. INTRODUCTION

On September 24, 2024, Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, “Petitioner”) submitted a Petition (Paper 1, “Petition” or “Pet.”) to institute *inter partes* review (“IPR”) of U.S. Patent No. 9,147,609 (Ex. 1001, the “’609 Patent”), challenging Claims 1-18 (the “Challenged Claims”). The Petition asserts that: (i) Claims 1-6, 9-14, 17, and 18 would have been anticipated or rendered obvious over U.S. Patent Application Publication No. US 2009/0278237 to Cooney, III et al. (“Cooney” or Ex. 1004); (ii) Claims 7 and 15 are obvious over Cooney and U.S. Patent Application Publication No. US 2011/0057319 to Dean, Jr. et al. (“Dean” or Ex. 1010); (iii) Claims 8 and 16 are rendered obvious over Cooney and U.S. Patent No. 8,237,288 to Farooq et al. (“Farooq” or Ex. 1016); and (iv) Claims 8 and 16 are rendered obvious over U.S. Patent Application Publication No. US 2010/0032843 to Chen et al. (“Chen”) or Ex. 1011) and Cooney. The Board should deny the Petition for at least the reasons described briefly below.

Every claim of the ’609 Patent requires a via with a pinched off region and a hollow center. The hollow center must taper within the pinched off region. Petitioner’s primary reference, Cooney, does not disclose such a hollow center.

Instead, it discloses an oval void outside of any pinched off region. Petitioner's arguments to the contrary are based on deriving locations from Cooney's Figures and application of its own overly expansive interpretation of "tapered." The Board should, therefore, deny the Petition.

As discussed below, the Petition should also be denied in the discretion of the Director under 35 U.S.C. § 314(a), as the projected Final Written Decision date in April 2026 is more than three months after the January 5, 2026 trial date in the underlying litigation.

II. THE '609 PATENT

The '609 Patent (Ex. 1001) is titled "Through Silicon Via Structure, Method of Formation, and Integration in Semiconductor Substrate" and issued on September 29, 2015. The '609 Patent relates to through silicon vias (TSVs) having pinched off regions. '609 Patent, Abstract, 1:54-59. 4:9-15. In particular, the '609 Patent teaches manufacturing TSVs with hollow centers. *Id.*, 4:47-59. The pinched off regions and hollow centers provide significant advantages, such as reducing the TSV's inductance, and reducing thermal and mechanical stresses. *Id.* 4:60-5:2.

Fig. 4

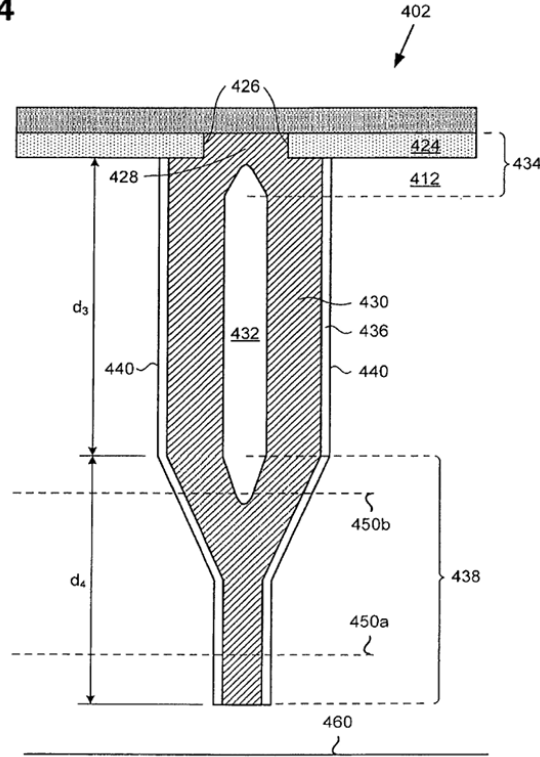
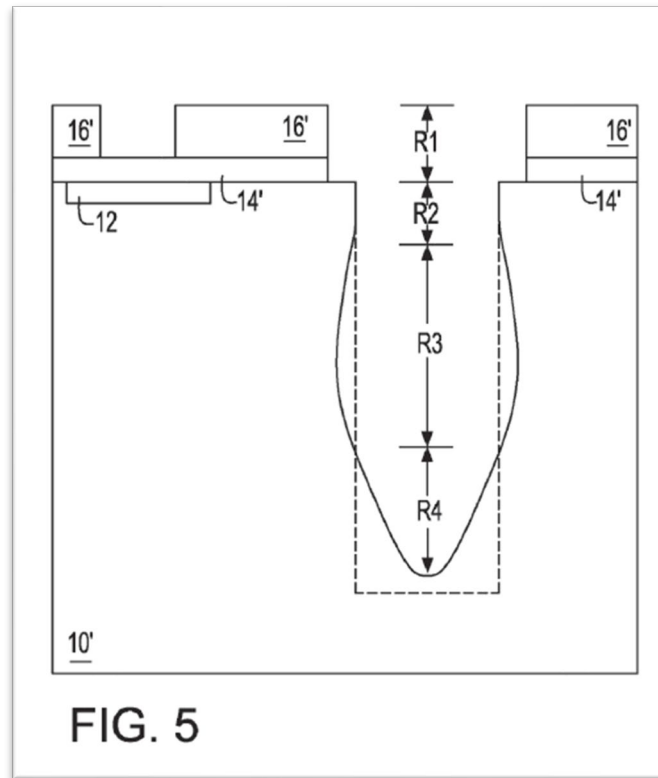


Figure 4 illustrates an embodiment of the '609 Patent's claimed invention. *Id.*, 4:9-5:2. The pinched off region 438 includes a tapered portion that allows the conductive filler to completely fill the bottom of the TSV. *Id.*, 4:48-54. The hollow center 432 includes a section that tapers conically within the pinched off region. *Id.*, 4:48-5:2; Fig. 4.

III. THE RELEVANT ALLEGED PRIOR ART

A. Cooney

U.S. Patent Application Publication No. US 2009/0278237 to Cooney, III et al. (Ex. 1004) is titled “Through Substrate Via Including Variable Sidewall Profile” and published on Nov. 12, 2009. Cooney is directed to forming a via in a semiconductor substrate. Ex. 1004, Abstract, ¶ [0002]. Cooney’s via is torpedo shaped, and composed of four regions. *Id.*, ¶ [0042], [0050-55], FIGS. 4-6. The regions include comparatively wide linewidth regions R1 and R3, as well as a tapered region R4. *Id.*, ¶ [0051], FIG. 5.



Ex. 1004, FIG. 5. The geometries of the various regions aid in filling the aperture with a conductor layer, and in confining any voids to the R3 region. *Id.*, ¶¶ [0051] (“the constriction within the second region **R2** is intended to completely seal off any void that may form within the third region **R3**, and to localize that void to the third region **R3**”), [0055], [0060], FIG. 6.

B. Dean

U.S. Patent Application Publication No. US 2011/0257319 to Dean, JR, et al. (Ex. 1010) published on March 10, 2011. Dean relates to arranging through silicon

vias in an IC layout to result in less wafer breakage. Ex. 1010, Abstract.

C. Farooq

U.S. Patent No. 8,237,288 to Farooq et al. (Ex. 1016) is titled “Enhanced Electromigration Resistance in TSV Structure and Design” and issued on Aug. 7, 2012. Farooq relates to structures and connections of TSVs. Ex. 1016, Abstract.

D. Chen

U.S. Patent Application Publication No. US 2010/0032843 to Chen et al. (Ex. 1011) published on February 11, 2010. Chen relates to a particular layout of TSVs. Ex. 1011, Abstract.

IV. LEVEL OF ORDINARY SKILL IN THE ART

For the purposes of this Preliminary Response only, Patent Owner utilizes Petitioner’s proposed level of skill in the art: “at least a master’s degree in electrical engineering or a similar field and at least two years of experience working with semiconductor systems. Additional relevant work experience can compensate for less education, and *vice versa*.” Pet. at 9-10 (citations omitted).

V. THE BOARD SHOULD DENY THE PETITION BECAUSE THE PETITION IS DEFECTIVE AND DOES NOT DEMONSTRATE A REASONABLE LIKELIHOOD OF SUCCESS AS TO ANY CLAIM

A. Grounds 1A and 1B Fail Because the Petition Does Not Show that “wherein said hollow center is tapered in said [another] pinched off region” Is Disclosed or Rendered Obvious by Cooney

Ground 1A, an anticipation ground, must fail because Cooney does not disclose the Claim 1 limitation 1c-2: “wherein said hollow center is tapered in said pinched off region.”¹ *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008) (“Because the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983))).

¹ Claim 11 recites the similar limitation “wherein said hollow center is tapered in said another pinched off region.” The Petition treats Claims 1 and 11 as coextensive with respect to this limitation. Pet., 53-54.

Ground 1B asserts obviousness over Cooney. Pet., 9. However, the Petition does not attempt to show that limitation 1c-2 would be obvious.

1. Cooney's Void Is Not "in said pinched off region"

The claims require a hollow center that "is tapered in said pinched off region." '609 Patent, Cl. 1. As the hollow center must taper within the pinched off region, to anticipate, Cooney would necessarily need to disclose a hollow center that is at least partially within a pinched off region. Cooney does not disclose such a hollow center; indeed, Cooney discloses a void that is explicitly confined to region R3 and not the tapered region R4. Petitioner argues that Cooney's void is within the supposed pinched off region rely solely on measurements from one of Cooney's Figures and its expert's *ipse dixit*.

Cooney describes a via with "an optional void 25." Ex. 1004, ¶ [0055]. The Petition relies solely on void 25 as the claimed hollow center. Pet., 34-38. Cooney does not describe the void as being, in whole or in part, in any pinched off or tapered region. Petitioner, recognizing this, relies on Cooney's Figure 6 as showing that the void is allegedly in a pinched off region.

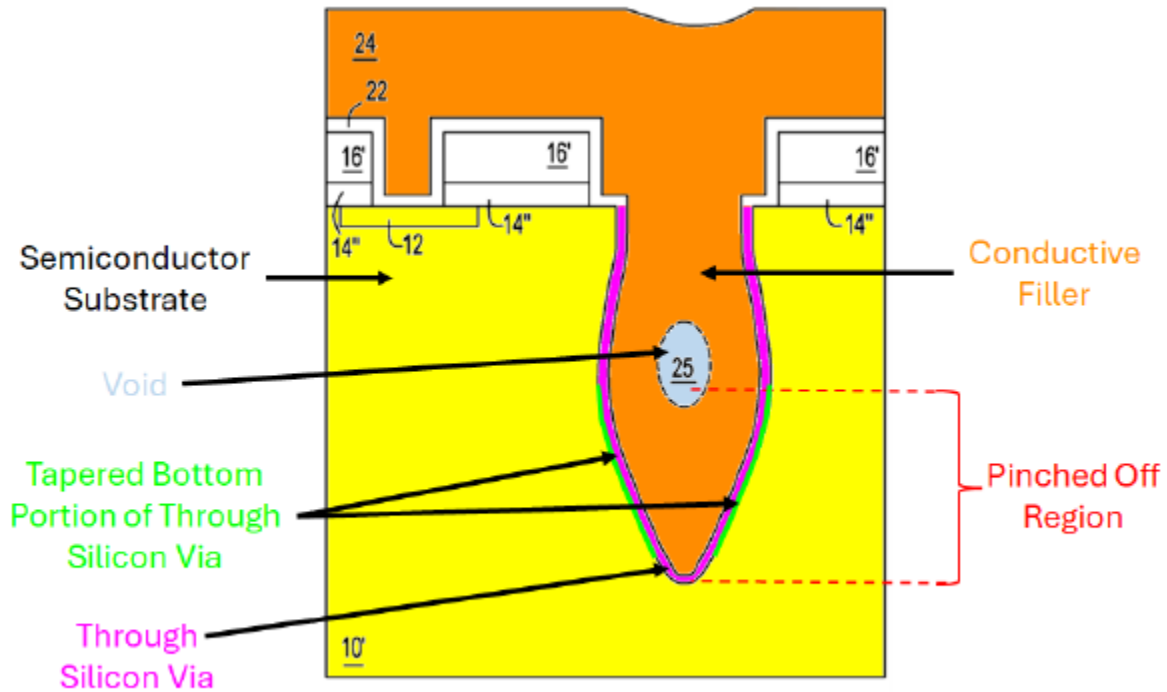


FIG. 6

Pet., 40. Petitioner, relying solely on Cooney’s Figure 6, identifies the “narrowing portion of the torpedo shaped aperture in Cooney” as the pinched off region. Pet., 30 (“In the figure, the pinched off region extends over the narrowing portion of the torpedo shaped aperture in *Cooney*...”).

At the outset, Petitioner impermissibly relies on its own annotations and measurements to show that the void is in what Petitioner calls the pinched off region. *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005) (“[A]rguments based on drawings not explicitly made to scale in issued patents are unavailing.”). Removing Petitioner’s annotations shows that it is impossible to reliably determine

if any part of the void is within the narrowing portion of the via. *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000) (“[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.”).

Moreover, Cooney itself makes clear that the void is not within a narrowed portion of the via. For example, Cooney explains that “the constriction within the second region R2 is intended to completely seal off any void that may form within the third region R3, and to *localize that void to the third region R3.*” Ex. 1004, ¶ [0051] (emphasis added). Cooney differentiates R3, which has a “comparatively wide linewidth,” from R4, which is a tapered region. *Id.*, ¶¶ [0050]-[0051]. Cooney further repeats that “the void 25 is localized to the second comparatively wide region R3 of the extended aperture.” *Id.*, ¶ [0060].

Thus, Cooney itself states that void 25 is localized to R3 and sealed off from the tapered R4 section. Petitioner sidesteps this disclosure by conclusorily identifying an allegedly narrowing portion of R3 as part of the pinched off region. Pet., 30, 35-38. However, neither Petitioner nor its expert explain how they determine which portion of R3 is narrowing—they merely point to the Figures. In

sum, Petitioner determines that Cooney discloses a hollow center that tapers in a pinched off region by: i) annotating in green a supposedly narrowing portion of Fig. 6; ii) drawing a box to identify the green-annotated portion as the pinched off region; and iii) drawing a line--from its own box--through Cooney's void. The Federal Circuit has explained that using patent drawings to infer measurements and spacing is improper. *Nystrom*, 424 F.3d at 1149 (reversing summary judgment of invalidity based on "evidence improperly derived from a patent drawing"). The Board should reject Petitioner's speculation as it is based on improper evidence and contradicts Cooney's written description.

Accordingly, since the Petition lacks any competent evidence to show that the void is even partially within a pinched off region, it cannot show that Cooney discloses a hollow center that tapers "in said pinched off region" as claimed. Ground 1A is therefore defective.

As to Ground 1B, the Petition does not argue that it would be obvious to modify Cooney to place the void into the pinched off region. *See Pet.*, 35-38. For example, the Petition does not set out any motivation to modify Cooney's void placement. Indeed, such arguments would be futile, as Cooney itself explicitly teaches that the void should be "localized" to R3 and sealed off from the tapering

region R4. The Petition is thus deficient as to Ground 1B as well.

The Board should therefore deny the Petition.

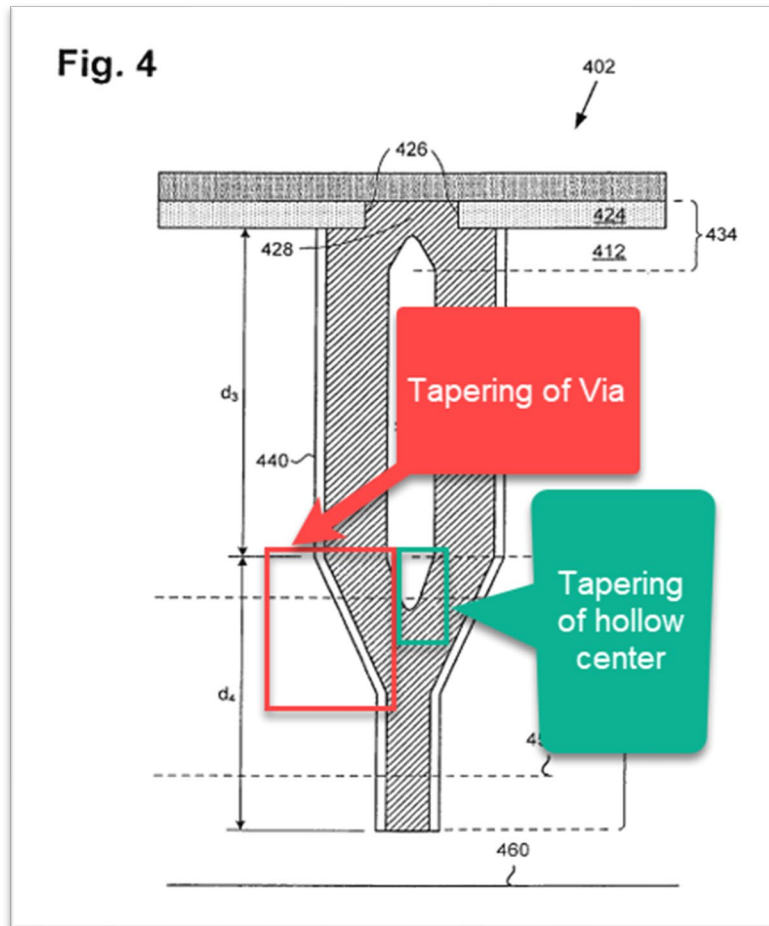
2. The Petition Does Not Show that Cooney's Void Is Tapered or that it Would Be Obvious to Modify the Void to be Tapered

Claims 1 and 11 also require that the hollow center be tapered. The Petition does not show that Cooney's void is tapered, nor does it show that it would be obvious to modify the void to be tapered.

Petitioner asserts that no construction is necessary. Pet., 8. Thus “tapered” should be afforded its plain and ordinary meaning, which requires a “gradual diminution of thickness, diameter, or width in an elongated object.” Ex. 2004. *See also* Ex. 2005 (defining “tapered” as “becoming gradually thinner, narrower, or smaller toward one end”); Ex. 2006 (defining “taper” as “[t]o narrow or diminish gradually in breadth or thickness towards one end”). Indeed, multiple Courts have construed “tapered” in a similar manner. *E.g.*, *Edgewell Pers. Care Brands, LLC v. Albaad Massuot Yitzhak, Ltd.*, No. 15-1188-RGA, 2017 WL 1900736, at *3 (D. Del. May 9, 2017) (“The plain meaning of ‘tapered’ is a ‘gradual diminution of thickness, diameter, or width in an elongated object.’”); *Nobel Biocare USA, LLC v. Blue Sky Bio, LLC*, No. CV 08-1407 ODW (RZx), 2009 WL 3335940, at *6-*7 (C.D. Cal.

Oct. 14, 2009) (construing “tapered implant” as “[a]n implant that gradually diminishes in diameter towards one end”).

The specification of the '609 Patent confirms that the inventors used “tapered” in accordance with its plain and ordinary meaning. For example, the inventors explain that the TSV “tapers from first depth d_3 to a second depth d_4 .” '609 Patent, 4:21-24. Indeed, the tapering portion is described as “narrowing,” which may be caused by progressively varying the etchant power “from 50 watts to 20 watts.” *Id.*, 4:24-29. Another method of forming a tapered section is to add O_2 during the etching process, resulting in less etching as the via is formed. *Id.*, 4:29-32. Figure 4 of the '609 Patent shows the resulting tapered via and tapered hollow.



'609 Patent, Fig. 4 (annotations added). As shown in the Figures, each tapered section gradually diminishes in width over the elongated portion of the via or hollow.

Thus, to the extent the Board determines that formal construction is required on this issue, the Board should construe “tapered” as “gradually diminishing in thickness, diameter, or width” for the reasons set forth above. In any event, Cooney does not disclose a tapered hollow center under the plain meaning of the term.

Cooney is entirely silent on the shape of the void. The Petition relies solely on Cooney's Figure 6. Pet., 35-38. Figure 6 shows a void 25, with a generally oval shape.

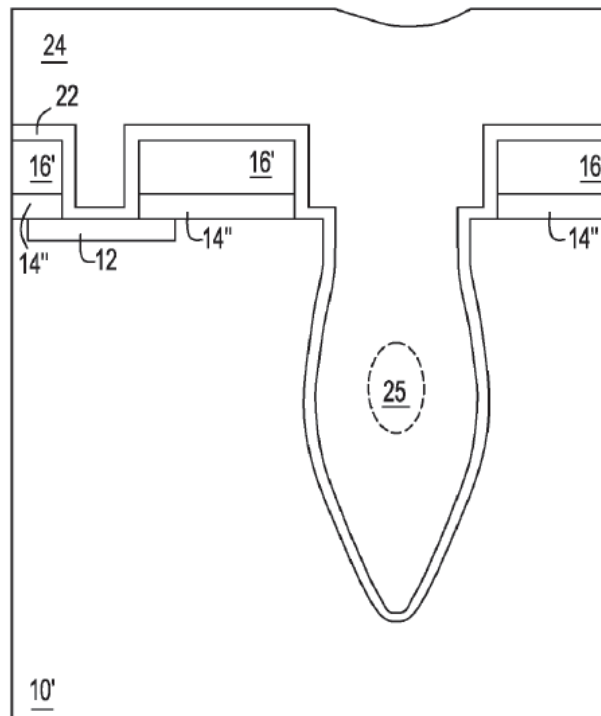


FIG. 6

Ex. 1004, FIG. 6.

Petitioner alleges that the oval void is tapered under the plain meaning of the term. Pet., 35-36. But as shown above, the plain meaning requires a gradual diminishment in width or some other dimension; Cooney's oval void does not

gradually diminish in any dimension along its length but instead merely ends in a rounded section. Thus, Cooney does not anticipate.

Petitioner, apparently realizing that Cooney's void is not tapered, further argues that Cooney's disclosure of using chemical vapor deposition (CVD) to deposit tungsten would result in Cooney's void having a tapered shape. Pet., 35-38. While Petitioner does not phrase it so, it appears that Petitioner argues that the void would inherently be tapered.

Petitioner's argument proceeds as follows: i) Cooney discloses depositing a liner layer conformally; ii) Cooney discloses depositing tungsten using CVD; iii) the CVD of tungsten would conformally follow the shape of the underlying surface; and iv) thus, the void would follow the shape of the underlying surface. Pet., 35-36. Petitioner's argument requires unsupported inferential leaps.

At the outset, Cooney discloses "conformal" coating only with respect to the liner layer 22. Ex. 1004, ¶ [0055] ("FIG. 6 shows a liner layer 22 located and formed conformally upon the semiconductor structure of FIG. 5 and incompletely filling the extended aperture."). The word "conformal" is nowhere else present in Cooney.

Cooney discloses that one way of depositing either the liner layer or the conductor layer is by means of CVD. Pet., 35-36. Petitioner seizes on this to argue

that the conductor layer would *also* be conformally deposited. Pet., 35 (“As *Cooney* teaches, chemical vapor deposition causes conformal deposition, which by its plain terms indicates that the conductor layer 24 would take the shape of the underlying surface.”). But *Cooney* is clear that the conductor layer 24 is not conformally deposited but, instead, “*completely fill[s]* the extended aperture.” Ex. 1004, ¶ [0055] (emphasis added). Figure 6 shows that the conductor is not conformally deposited, but rather fills the aperture.

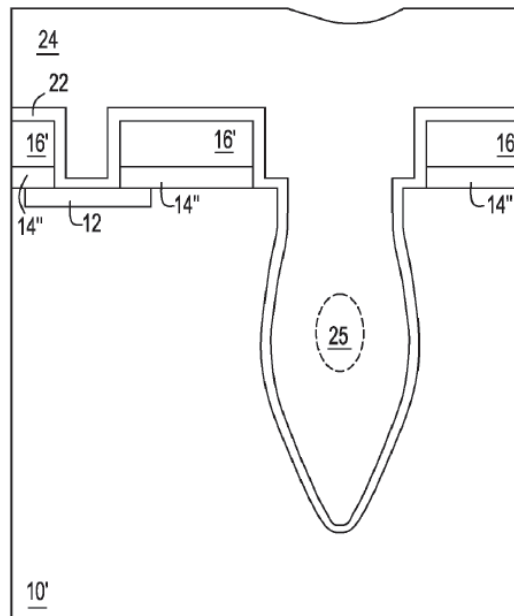


FIG. 6

Ex. 1004, FIG. 6. Thus, *Cooney* does not disclose that the void would match the tapered portion of the aperture. Indeed, to the extent Figure 6 is relied upon, the void

25 and the aperture have different shapes; the void is rounded and the aperture has slanting tapered sides.

Petitioner's citation to other references does not convert Cooney's void to a tapered void and rescue its anticipation argument. For example, Petitioner cites to Chandrashekar (Ex. 1008). Chandrashekar merely states that a "deposition process *may* result in a conformal layer of the materials [] built-up over the under-layer." Ex. 1008, ¶ [0031] (emphasis added). Indeed, Chandrashekar further states that in some contexts "the layer 123 may become *less conformal*." *Id.* (emphasis added.) But for Cooney to anticipate based on the Chandrashekar's disclosure, Petitioner would need to show that Cooney's deposition process *necessarily* results in a tapered void. *Pers. Web Techs., LLC v. Apple, Inc.*, 917 F.3d 1376, 1382-83 (Fed. Cir. 2019) ("Inherency . . . may not be established by probabilities or possibilities." (quoting *Par Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014))). Indeed, "[t]he mere fact that a certain thing *may* result from a given set of circumstances is not sufficient." *Id.* at 1382. Chandrashekar's disclosure falls far from showing that CVD of tungsten (even with respect to Cooney's aperture) will necessarily result in a tapered void. Instead, it explicitly states that a conformal shape is not the only, or

even the typical, result of such deposition. Thus a POSITA would not understand Cooney to inevitably result in a tapered void.

Moreover, Cooney itself states that the conductor layer will not form a conformal layer like the liner, but rather completely fills the aperture. Indeed, Cooney’s geometry is specifically designed to result in filling the spaces. Ex. 1004, ¶¶ [0066] (describing how the shapes aid in filling the apertures); [0055] (explaining that conductor layer 24 “completely fill[s] the extended aperture”).

Accordingly, for this separate reason, the Petition fails to show a reasonable likelihood of prevailing with respect to anticipation of any Challenged Claims. *Kingston Tech. Co., Inc. v. SPEX Techs., Inc.*, 798 F. App’x. 629, 634 (Fed. Cir. 2020) (“The Board also reasonably declined to find inherent anticipation here, where Kingston’s theory of invalidity relies on multiple inferential leaps.”).

Kingston is instructive. There, the Petitioner argued that a prior art reference’s mention of a particular standard meant that the reference would have used functions disclosed in that standard. *Id.* at 633-34. The Board found, and the Federal Circuit agreed, that the mention did not rise to the level of necessarily using the functions, especially when the functions were themselves optional features of the standard. *Id.* For example, the standard stated as to one function “Card Services clients *may* need

to process a PC Card's Card Information Structure (CIS) to determine if and how they will interact with a card detected in a socket.” *Id.* The situation here requires even further inferences. Cooney does not mention Chandrashekar—only CVD. Thus a POSITA would not immediately turn to Chandrashekar. However, even if one did, Chandrashekar itself states that CVD *may* result in conformal layers, but does not state that it necessarily will. Just as in *Kingston*, Petitioner’s anticipation theory fails because it cannot show that the limitation would necessarily be present.

Petitioner does not make any obviousness arguments as to this limitation. *See* Pet., 34-38. Even if its reference to Chandrashekar were read as an obviousness argument, it must fail. The Petition does not set out any reason a POSITA would be motivated to use Chandrashekar’s process or to otherwise modify Cooney to include a hollow center tapered in a pinched off region.

B. Ground 2 Fails Because It Does Not Cure the Deficiencies of Ground 1

Ground 2 asserts obviousness based on Cooney and Dean as to dependent Claims 7 and 15. Pet., 57-70. Ground 2 explicitly relies on the flawed Ground 1 analysis and does not assert that including Dean overcomes the deficiencies of Ground 1. Pet., 66. Accordingly, Ground 2 also fails.

C. Ground 3 Fails Because It Does Not Cure the Deficiencies in Ground 1

Ground 3 asserts obviousness based on Cooney and Farooq as to dependent Claims 8 and 16. Pet., 70-74. Ground 3 does not assert that including Farooq overcomes the deficiencies of Ground 1. Pet., 74. Accordingly, Ground 3 also fails.

D. Ground 4 Fails Because It Does Not Cure the Deficiencies in Ground 1

Ground 4 asserts obviousness based on Cooney and Chen as to dependent Claims 8 and 16. Pet., 74-80. Ground 4 does not assert that including Farooq overcomes the deficiencies of Ground 1. Pet., 80. Accordingly, Ground 4 also fails.

VI. THE PETITION SHOULD BE DENIED IN THE DISCRETION OF THE DIRECTOR UNDER 35 U.S.C. § 314(a)

Based on Petitioner's reasons regarding § 314(a), the Board should exercise its discretion to deny this Petition. As shown above, the Petition fails to present a compelling unpatentability challenge.

The circumstances of the parallel District Court Litigation, *Harbor Island Dynamic LLC v. Samsung Elecs. Co.*, No. 2:24-cv-00140-JRG-RSP (E.D. Tex.) necessitate denial of the Petition under the Board's precedent, as every factor considered in relation to efficiency, fairness, and the merits supports denial. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11, at 6 (P.T.A.B. Mar. 20, 2020)

(precedential) (considering (a) “whether the petitioner and the defendant in the parallel proceeding are the same party”; (b) “overlap between issues raised in the petition and in the parallel proceeding” (c) “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision”; (d) “investment in the parallel proceeding by the court and the parties”; (e) “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted”; and (f) “other circumstances that impact the Board’s exercise of discretion, including the merits.”).

As set forth below, these factors collectively demonstrate that efficiency and integrity of the AIA are best served by denying review. First, the Petitioner is the Defendant in the parallel proceeding. *See infra* Section VII.A. Second, the asserted claims in the District Court Litigation are all at issue in the Petition. *See infra* Section VII.B. Third, trial in the District Court Litigation is set for January 5, 2026, which is more than three months before projected statutory deadline for a Final Written Decision of this Petition on April 13, 2026. *See infra* Section VII.C. Fourth, the parties (and Patent Owner in particular) have invested significant resources in developing legal and factual issues of validity and infringement in the District Court Litigation and will have invested substantially more resources before any decision

on this Petition. *See infra* Section VII.D. Fifth, the Court has already denied a stay pending this Petition. *See infra* Section VII.E. Finally, no other factors favor institution. *See infra* Section VII.F.

Accordingly, the Board should exercise its discretion under § 314(a) and deny the Petition because institution of this proceeding would not be consistent with the objective of the AIA to “provide an effective and efficient alternative to district court litigation.” *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8, at 20 (P.T.A.B. Sept. 12, 2018) (quoting *Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, at 16–17 (P.T.A.B. Sept. 6, 2017) (precedential)).

**A. The Parallel District Court Litigation and the Petition
Involve the Same Parties**

As Petitioner notes, there exists a parallel District Court Litigation between the same parties regarding the same subject patent (the '609 Patent). Pet. at 81-82. Petitioner is a party to the District Court Litigation captioned as *Harbor Island Dynamic LLC v. Samsung Elecs. Co.*, No. 2:24-cv-00140-JRG-RSP (E.D. Tex.). Accordingly, this factor weighs in favor of discretionary denial.

B. The District Court Litigation Involves Substantially the Same Claims

All of the asserted claims of the '609 Patent in the District Court Litigation are at issue in this Petition. “In at least these ways, the parallel proceedings would duplicate effort. This is an inefficient use of Board, party, and judicial resources and raises the possibility of conflicting decisions.” *Cisco Sys., Inc. v. Ramot at Tel Aviv Univ. Ltd.*, IPR2020-00122, Paper 15 at 10 (P.T.A.B. May 15, 2020). Accordingly, this fact weighs in favor of discretionary denial.

C. Proximity of the District Court’s Trial Date

The proximity of the District Court Litigation’s trial date to the Board’s projected statutory deadline for a Final Written Decision strongly weighs in favor of discretionary denial.

The parties’ trial is scheduled for January 5, 2026. Ex. 2001 (Docket Control Order, Dkt. 38, *Harbor Island Dynamic LLC v. Samsung Elecs. Co.*, No. 2:24-cv-00140-JRG-RSP (E.D. Tex. Aug. 5, 2024)). Pursuant to 35 U.S.C. §§ 314(b)(1) and 316(a)(11), the projected statutory deadline for a Final Written Decision of this

Petition is April 13, 2026.² As the District Court’s trial will be three months before the projected statutory deadline, this factor weighs strongly in favor of denying institution. *See Supercell Oy v. Gree, Inc.*, IPR2020-00513, Paper 11 at 10-12 (P.T.A.B. June 24, 2020) (denying institution where the jury trial was scheduled to conclude approximately ten months before the statutory deadline); *Edward LifeSciences Corp. v. Evalve, Inc.*, IPR2019-01479, Paper 7, at 6-13 (P.T.A.B. Feb. 26, 2020) (denying institution where jury trial would conclude more than nine months before a final decision would be due); *Samsung Elecs. Am., Inc. v. Uniloc 2017 LLC*, IPR2019-01218, Paper 7, at 7-10 (P.T.A.B. Jan. 7, 2020) (denying institution where jury selection was scheduled for approximately six months before trial in the Board proceeding would conclude); *Next Caller Inc. v. TrustID, Inc.*, IPR2019-00961, -00962, Paper 10, at 8-16 (P.T.A.B. Oct. 16, 2019) (denying

² The statutory deadline for institution is April 13, 2025, “three months after receiving a preliminary response to the petition under section 313.” *See* 35 U.S.C. § 314(b)(1). If instituted, the statutory deadline for Final Written Decision is April 13, 2026, “not later than 1 year after the date on which the Director notices the institution of a review.”

institution where trial was scheduled to conclude “several months,” before a final decision would be due); *Cisco Sys., Inc.*, IPR2020-00122, Paper 15 at 8 (“Because the trial date is substantially earlier than the projected statutory deadline for the Board’s final decision, this factor weighs in favor of discretionary denial.”).

Petitioner does not contest that the proximity of the trial favors denial of institution. Thus, this factor also weighs in favor of discretionary denial.

D. Significant Investment and Petitioner’s Delay in Filing the Petition

The parties’ investment in the parallel proceeding weighs in favor of discretionary denial. In the District Court Litigation, the Court has already entered a Docket Control Order (Dkt. 38), Discovery Order (Dkt. 39), and Protective Order (Dkt. 44). Discovery is also well under way. The parties have already exchanged infringement contentions pursuant to P.R. 3-1 and invalidity contentions pursuant to P.R. 3-3. Ex. 2001 (Docket Control Order). A trial date is also set for January 5, 2026. *Id.* Thus, the parties’ and Court’s substantial investment in this proceeding weighs in favor of denial of institution under this factor.

E. No Stay of the Parallel District Court Litigation

There is no stay of the parallel District Court Litigation and, in fact, a motion for a stay by Petitioner has already been denied. *See* Dkt. 62, *Harbor Island*

Dynamic, LLC v. Samsung Elecs. Co., No. 2:24-cv-00140-JRG-RSP (E.D. Tex. December 19, 2024). Ex. 2002. Even if the Petition were instituted and Petitioner filed another motion to stay the District Court Litigation, prejudice, tactical disadvantage to Patent Owner, the late stage of the litigation, and the lack of potential simplification would weigh strongly against such a motion. *See Lennon Image Techs., LLC v. Macy's Retail Holdings, Inc.*, 2:13-CV-00235-JRG, 2014 WL 4652117, at *1 (E.D. Tex. Sept. 18, 2014).

Moreover, a stay would not decrease the burden on the Court and the parties since any instituted IPR would not cover all of the obviousness challenges that Petitioner has raised in the District Court Litigation, and do not include Petitioner's challenges under § 101, § 102, or § 112. *See generally* Ex. 2003 (Invalidity Contentions), at 46, 53-54. *Intell. Ventures II LLC v. FedEx Corp.*, No. 2:16-cv-00980-JRG, Dkt. 141 at 3-4 (E.D. Tex. Oct. 24, 2017) (“[T]he instituted IPRs only cover a narrow slice of the invalidity arguments Defendants have raised in this case. For example, Defendants have argued that the ’715 Patent is invalid under § 102 with respect to at least eight references . . . under § 103 with respect to at least twenty-six combinations . . . under § 112 [], and under § 101.”).

Accordingly, it would be unlikely for the Court to hold that a stay would streamline the litigation and this factor supports denial of institution.

F. Other Factors Favor Discretionary Denial

Petitioner does not present a strong case on the merits, further supporting denial of institution. *See supra* Section VI. Petitioner also does not identify any other factors which weigh against discretionary denial. Pet. at 80-81.

Thus, when viewing the factors together, the Petition should be denied in the Director's discretion under 35 U.S.C. § 314(a).

VII. THE BOARD SHOULD REJECT ANY LATE SOTERA STIPULATION

Petitioner has not made a *Sotera*-style stipulation that “if IPR is instituted, [Petitioner] will not pursue in the District Court Litigation any ground raised or that could have been reasonably raised in an IPR” in its Petition, which weighs further in favor of discretionarily denying institution. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12, 13-14 (P.T.A.B. Dec. 1, 2020) (designated Dec. 17, 2020).

The Board should not accept any late *Sotera* stipulation after this Patent Owner Preliminary Response. Petitioner has known about the related District Court Litigation since Patent Owner filed a Complaint asserting infringement of the '609

Patent against Petitioner (February 27, 2024) over six months before the Petition (Sept. 20, 2024) and has had a docket control order for the District Court Litigation, anticipating a trial date for January 5, 2026. Ex. 2001 (Docket Control Order). Any withholding of the *Sotera* stipulation in its Petition is gamesmanship and prejudicial to Patent Owner in this proceeding and is inconsistent with 37 C.F.R. § 42.1(b)'s mandate to "secure the just, speedy, and inexpensive resolution of every proceeding."

Both the Board and the Director are abundantly clear that Petitioner cannot wait until after the Board renders its Institution Decision to address the issue of *Fintiv*, the Board's discretionary authority, and to submit a *Sotera* stipulation. *NXP USA, Inc. v Impinj, Inc.*, IPR2021-01556, Paper 12, 5-6 (P.T.A.B. Aug. 25, 2022); *see also id.*, IPR2021-01556, Paper 13, 3-4 (P.T.A.B. Sept. 7, 2022) (*the Director finding* "that the Board correctly determined that a stipulation, offered by a petitioner for the first time after a decision denying institution, is not a proper basis for granting rehearing of the decision on institution;" "[p]ermitting a petitioner to wait and see if the Board denies institution under *Fintiv*, and then offer such a stipulation for the first time on rehearing, frustrates these goals [of avoiding conflicting decisions] and would open the door to gamesmanship;" "*the only appropriate time for a petitioner*

to offer a stipulation related to the Fintiv factor 4 analysis is prior to the Board's decision of whether to institute review.") (emphasis added).

VIII. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Board deny institution of the Petition in its entirety.

Respectfully submitted,

Dated: January 10, 2025

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CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned PATENT OWNER'S PRELIMINARY RESPONSE specified in 37 C.F.R. § 42.24 has 4,995 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word for Office 365.

Respectfully submitted,

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CERTIFICATE OF SERVICE

A copy of the foregoing Patent Owner's Preliminary Response and Exhibits
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