

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MOBILE USA, INC., AT&T SERVICES INC., AT&T MOBILITY LLC,
AT&T CORPORATION, CELLCO PARTNERSHIP D/B/A VERIZON
WIRELESS, NOKIA OF AMERICA CORPORATION, ERICSSON INC.,
Petitioners,

v.

COBBLESTONE WIRELESS LLC,
Patent Owner.

Case IPR2024-00136
Patent 8,891,347 B2

PATENT OWNER'S PRELIMINARY RESPONSE

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2002	<i>Samsung Elecs. Am., Inc. et al. v. Cobblestone Wireless, LLC</i> , IPR2024-00319, Paper 3 (IPR Petition) (PTAB Dec. 18, 2023)
2003	Federal Court Management Statistics for the Eastern District of Texas through December 2023, <i>available at</i> https://www.uscourts.gov/statistics-reports/federal-court-management-statistics-december-2023
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2013	<i>Cobblestone Wireless, LLC v. T-Mobile USA, Inc.</i> , No. 2:22-cv-00477 (lead case), Defendants' and Intervenor's Preliminary Invalidity Contentions for U.S. Patent No. 8,891,347 (E.D. Tex., served May 12, 2023)
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I. INTRODUCTION

The Petition should be denied institution for multiple independently sufficient reasons.

First, as explained in Section II.A, *infra*, the Petition should be denied because it exclusively relies on Patent Owner’s alleged interpretations of claim limitations that Petitioners insist are dead wrong. Pet., 14 (“...Patent Owner has taken a broad interpretation of the claims that is ***not consistent with the plain and ordinary meaning*** Sesia renders obvious each of these limitations under Patent Owner’s ***broader interpretation.***”). Importantly, the entirety of Petitioners’ analysis is based upon these, in Petitioners’ view, errant constructions. *See, e.g., id.*, 1 (“[T]he Challenged Claims are unpatentable over Sesia in view of the Patent Owner’s apparent interpretation of the claims.”), 14-16 (similar), 35 (similar), 38-39 (similar). Nor is there any alternative obviousness analysis based on any construction that the Petition asserts is correct.

The Board has addressed this precise question and has unequivocally held that a petitioner cannot meet its burden at institution “by conducting unpatentability analysis only under a claim construction with which it expressly disagrees.” *Hologic, Inc. v. Enzo Life Sciences, Inc.*, IPR2018-00019, Paper 21, 2 (Nov. 28, 2018) (affirming on rehearing the Board’s denial of institution); *see also Orthopediatrics Corp. v. K2M, Inc.*, IPR2018-01548, Paper 9, 9 (Mar. 1, 2019)

(petitioner has not met its burden where “Petitioner’s contentions are limited to how the claim limitations at issue *should not be construed*.”) (emphasis in original).

But even if, counterfactually, Petitioners could exclusively rely upon constructions they expressly disagree with, the Petition must still be rejected because Petitioners rely upon an interpretation of limitation 1.3 that ***no one agrees with***. Patent Owner’s actual claim construction position is demonstrably different from the strawman construction the Petition relies upon. Therefore, the Petition should be summarily denied institution.

Second, the Petition fails to show disclosure or obviousness of any claims even under the Petition’s self-proclaimed incorrect constructions. *See* Section II.B, *infra*. Instead, the Petition’s sole reference, Sesia, implements an approach that the ’347 patent itself expressly distinguished from the invention it claims. Specifically, the ’347 explains that a “propagation channel” in an embodiment consists of the combination of multiple “propagation paths.” Ex. 1001 [’347] 7:33-37. The ’347 then explains that the claimed method obtains path parameter information “for ***each*** of the propagation paths.” *Id.*, 8:11-16. The claims, in accord, recite “obtain[ing] path parameter information of the ***first propagation path***.” *See, e.g., id.*, cl. 1. Sesia, by contrast, is not shown to obtain path parameter information for any specific “propagation path,” but only for the

propagation channel as a whole, which consists of multiple propagation paths. *See* Section II.B, *infra*. The Petition does not at all address this shortcoming, but simply ignores it and equates Sesia’s “channel” with the claimed “propagation path,” even though the Petition itself admits elsewhere that Sesia’s channel consists of multiple propagation paths. Therefore, the Petition fails to show obtaining path parameter information of “the first propagation path.”

Third, the Board should exercise its discretion to deny institution under *Fintiv*. *See* Section III, *infra*. The district court trial involving the same patent and parties will occur over ***eight months before*** the deadline for the final written decision in this IPR, if instituted. Even by the time the institution decision is due, there will have been much investment by the parties and the district court: the Markman hearing will have concluded, claim construction and fact discovery will be complete, and opening expert reports (including Petitioners’ invalidity expert report) will have been served. Nor are there compelling reasons (or merits) that would justify this proceeding. To the contrary, institution should be denied for multiple reasons and therefore, under *Fintiv*, instituting this IPR does not improve efficiency or provide an alternative path to a validity challenge, but instead will duplicate the parties and tribunals effort so as to provide Petitioners with multiple bites at the apple.

Fourth, there is no justification in instituting two parallel petitions. *See* Section IV, *infra*. Specifically, Petitioners’ co-real party-in-interest (Samsung Electronics Co., Ltd.) has filed a parallel Petition that includes a “copycat” of this Petition’s entire ground based on the same Sesia reference, challenging the same claims. The Consolidated Trial Practice Guide (“CTPG,” Nov. 2019 Update) indicates that “multiple petitions by a petitioner are not necessary in the vast majority of cases.” CTPG, 59. The Office has further made clear that this presumptive prohibition applies to petitions filed by the same petitioner or their real parties-in-interest. *Changes Under Consideration to Discretionary Institution Practices, Petition Word-Count Limits, and Settlement Practices for America Invents Act Trial Proceedings Before the Patent Trial and Appeal Board*, 88 Fed. Reg. 24503, 24506 (Apr. 21, 2023). Yet, Petitioners have not provided any ranking of the petitions, nor is any explanation provided as to why any differences in the issues addressed by each are “material.” CTPG, 59-60. Therefore, no justification is shown for maintaining two parallel petitions before the Office.

For all of the foregoing reasons, as discussed in more detail in this POPR, the Petition should be denied.

II. PETITIONERS FAIL TO SHOW A REASONABLE LIKELIHOOD OF PREVAILING AS TO ANY CHALLENGED CLAIMS.

A. Institution Should Be Denied Because The Petition Exclusively Relies Upon Constructions It Expressly Disagrees With (All Claims).

Institution should be denied because the Petition—by Petitioners’ own admission—rests on an infirm foundation. Before the Board, it has become commonplace for a petitioner to explain why a claim is invalid under alternative claim constructions, *e.g.*, its proposed construction and a construction proffered by the patent owner. Petitioners, however, have not done that here. Here, Petitioners raise a single invalidity ground (over Sesia) that solely and exclusively relies upon Patent Owner’s alleged claim construction positions. What is more, Petitioners make clear *in the Petition, that they believe the sole constructions they rely upon are dead wrong*. As common sense, the Board’s caselaw, and the Office’s policy make clear, a petitioner cannot demonstrate a reasonable likelihood of prevailing based upon constructions it expressly disagrees with in its petition.

But even if, *arguendo*, petitioners could exclusively rely on constructions they say in the petition are wrong, Petitioners’ approach here must be rejected for, at least as to limitation 1.3, Petitioners rely upon a claim interpretation that *no one* agrees with. Patent Owner’s actual claim construction positions are different from the strawman construction that Petitioners have relied upon. Thus, as to limitation 1.3, even Petitioners proffered justification for its approach is without basis.

Petitioners contend that “[f]or purposes of this Petition, it is important to consider Patent Owner’s *apparent interpretation* of certain terms in the co-pending district court litigations.”¹ Pet., 13. Petitioners make clear that they believe Patent Owner “has taken a *broad interpretation of the claims that is not consistent with the plain and ordinary meaning*.” *Id.*, 14. Thus, Petitioners confirm that their position is that Patent Owner’s interpretation of the claims is wrong. Nonetheless, Petitioners contend that Sesia renders obvious each of the claims only under, per Petitioners, “broad interpretation[s] ... that [are] not consistent with the plain and ordinary meaning”:

Here, while the Patent Owner has not formally provided proposed constructions, Patent Owner’s infringement contentions indicate that *Patent Owner has taken a broad interpretation of the claims that is not consistent with the plain and ordinary meaning* and should be considered when assessing the prior art ground in this Petition. As will be shown below, *Sesia renders obvious each of these limitations under Patent Owner’s broader interpretation.*

Pet., 14.

Indeed, Petitioners rely upon two, in their view, errant constructions. For the limitation 1.3, “predistorting a second signal at the transmitter in a time domain, a frequency domain, and a spatial domain,” Petitioners point to Patent

¹ All emphasis in this POPR is added unless otherwise noted.

Owner’s reliance upon beamforming, but Petitioners make clear that “[b]eamforming and the selection of time and frequency resources jointly or individually are **not predistortion** ...”, but, under Patent Owner’s interpretation of this limitation, the claim is **broad enough** to capture resource selection and beamforming a wireless signal.” Pet., 16. Similarly, Petitioners reiterate their view that Patent Owner’s alleged interpretation of “path parameter information” (in limitation 1.3) is overly broad. *Id.*, 14 (“In the co-pending district court litigation, **Patent Owner interprets ‘path parameter information’ broadly** to capture any channel state information feedback ...”). These limitations are present in each and every claim-at-issue. Ex. 1001 [’347] limitations 1.3, 1.5, 8.4, 8.5, 15.3.2, 15.3.4, 19.3.2, and 19.3.4.

Notably, Petitioners’ contention regarding Patent Owner’s interpretation of limitation 1.3 is not even correct, and Petitioners instead attack a strawman. Petitioners contend that “[i]n the co-pending district court litigation, Patent Owner interprets ‘path parameter information’ broadly to capture **any** channel state information feedback ...” (limitation 1.3). Pet., 14, 32-35. Not so. Patent Owner does not contend that limitation 1.3 is satisfied by “**any** channel state information feedback.” Rather, as the limitation makes clear, the “channel estimation” must be “based on the first signal to obtain path parameter information of **the first propagation path**,” *i.e.*, “path parameter information” for a **specific** propagation

path (“the first propagation path”). And this is fully consistent with Patent Owner’s infringement contentions, which explain that the infringing products obtain path parameter information for a “narrow-beam” that discloses a *single* propagation path. Ex. 1009 [Infringement-Contentions] 6-8.

Thus, the Petition solely relies upon, in its view, dead wrong interpretations of two claim limitations present in every claim-at-issue. Importantly, Petitioners do not demonstrate that the claims are obvious under any understanding of the claims that they agree with. Rather, Petitioners make clear, again and again, that their invalidity arguments arise under Patent Owner’s allegedly overly broad interpretation of the claims that are “not consistent with the plain and ordinary meaning” of the claims. *Id.*, 14; *see also, id.*, 1 (“Thus, as described in detail below, the Challenged claims are unpatentable over Sesia *in view of the Patent Owner’s apparent interpretation of the claims.*”); 14 (“As will be shown below, Sesia renders obvious each of these limitations *under Patent Owner’s broader interpretation.*”); 69 (“Sesia presents compelling invalidity arguments ... particularly *in light of Patent Owner’s apparent interpretation of the claims.*”); 35 (“Based on Sesia’s disclosure, a POSITA would understand, *under Patent Owner’s apparent interpretation of the claims*, that the information that is obtained ... corresponds with the claimed ‘path parameter information.’ Ex. 1005, ¶¶135. Furthermore, *under Patent Owner’s apparent interpretation of the claims*,

based on Sesia’s disclosure, a POSITA would understand that this information is ‘path parameter information of the first propagation path’ given that channel estimation attempts to define the channel model of a propagation path.”); 39 (“As discussed above, Patent Owner interprets ‘predistorting a second signal at the transmitter in a time domain, a frequency domain, and a spatial domain’ ***as broad enough to include beamforming*** a wireless signal and/or scheduling of transmission resources in the time and frequency domains.”); *id.*, 43 (“Thus, Sesia discloses and/or renders obvious ‘predistorting a second signal at the transmitter in a time domain, a frequency domain, and a spatial domain, according to the channel estimation based on the first signal,’ as recited in Claim 1 ***under Patent Owner’s apparent interpretation of the claims which is broad enough to capture beamforming a wireless signal.***”).² Thus, Petitioners present arguments

² To be sure, the Petition once suggests that “Sesia discloses [the path parameter limitation] under either Patent Owner’s apparent interpretation ***or*** the plain and ordinary meaning of the term.” Pet. 36. Petitioners, however, do not substantiate or explain this statement and it is, moreover, inconsistent with their litigation position, where Petitioners make clear that both “implicit” ***and*** “explicit” channel state/status information do not satisfy the “path parameter information” limitation. *See, e.g.*, Ex. 2018 [Verizon-Non-Infringement-Contentions] 7. For

exclusively under Patent Owner’s allegedly overly broad constructions that Petitioners insist, *in the Petition itself*, are “not consistent with the plain and ordinary meaning[.]”

A petition that exclusively relies upon constructions it expressly disagrees with in the petition itself cannot be a basis for institution. “It is the petitioner that bears the burden of proof in IPRs.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Petitioners are further obliged to set forth “[h]ow the challenged claim is to be construed” and “[h]ow the construed claim is unpatentable.” 37 C.F.R. § 42.104(b)(4).

As the Board has confirmed, a petitioner cannot satisfy its burden of proof under constructions it insists are wrong. The Board’s decision in *Hologic, Inc. v. Enzo Life Sciences, Inc.*, IPR2018-00019, Paper 21 (Nov. 28, 2018) (“*Hologic*”) addressed precisely the same question raised here:

example, Petitioners have expressly alleged in the district court that ***none*** of CQI, PMI or CSI-RS—the same metrics the Petition (at 34) relies upon in the Petition—are path parameter information. *Id.* (“To the extent that Cobblestone alleges that CQI, PMI, CSI-RS ... are path parameter information, ***that is incorrect.***”). Petitioners have also expressly alleged that “[c]hannel state/status information is ***not path parameter information.***” *Id.*

This case presents an issue of claim construction: in a proceeding applying the *Phillips* claim-construction standard, may Petitioner satisfy its obligations under our rules by conducting unpatentability analysis ***only under a claim construction with which it expressly disagrees?***

Id., 2. There, just as here, “[n]early every time Petitioner discusses its use in the Petition of Patent Owner’s proposed construction, Petitioner affirmatively disagrees with the construction it adopts.” *Id.*, 4; *id.*, (“The Petition’s analysis of the unpatentability of the challenged claims is based on the claim-construction positions with which Petitioner disagrees.”).

Hologic resoundingly rejected this approach, reaffirmed its denial of institution and further confirmed that “Petitioner does not satisfy Rule 42.104(b)(3) when, in a proceeding applying the *Phillips* claim-construction standard, it ‘expressly disagree[s] with its proffered constructions.’” *Id.*, 6 (quoting *Western Digital Corp. v. SPEX Techs., Inc.*, IPR2018-00084, Paper 14, 12 (Apr. 25, 2018)). As the Board explained:

Petitioners have many options for proffering constructions to be used in deciding an *inter partes* review. They may choose to provide claim constructions with which they agree. At least under some circumstances, they also may choose to provide claim constructions with which they disagree. For example, in an *inter partes* review where the broadest reasonable interpretation is being applied, a petitioner may proffer a construction advocated in District Court by the patent owner

and may state that it disagrees that the construction is correct under the standard applied in District Court but that it proposes the construction as the broadest reasonable interpretation of the term in question. *Sony Corp. v. Collabo Innovations, Inc.*, Case IPR2017-00958, slip op. at 14 (PTAB Sept. 5, 2017) (Paper 8); *see* IPR2017-00958, Paper 1, 15–20; *see also* *Toshiba Corp. v. Lone Star Silicon Innovations, LLC*, Case IPR2018-00087, slip op. at 8 (PTAB May 2, 2018) (Paper 8); IPR2018-00087, Paper 1, 17–18. In addition, in broadest-reasonable-interpretation cases, a petitioner may argue that a claim is indefinite but still offer a construction for the claim. *See Varian Med. Sys., Inc. v. William Beaumont Hospital*, Case IPR2016-00169, slip op. at 7–8 (PTAB May 5, 2016) (Paper 14). Where a petitioner is concerned that the Board may not adopt what it believes is the proper claim construction, it may choose to offer alternative constructions and demonstrate unpatentability under each construction. *Changes to Implement Inter Partes Review Proceedings, Post-Grant Review Proceedings, and Transitional Program for Covered Business Method Patents*, 77 Fed. Reg. 48,680, 48,700 (Aug. 14, 2012).

On the other hand, Petitioner does not satisfy Rule 42.104(b)(3) when, in a proceeding applying the Phillips claim-construction standard, it “expressly disagree[s] with its proffered constructions.” *Western Digital*, IPR2018-00084, Paper 14, 12; *see also* *CareFusion Corp. v. Baxter Int’l, Inc.*, Case IPR2016-01456, slip op. at 6–7 (PTAB Feb. 6, 2017) (Paper 9) (“Petitioner has failed to prove a sufficient statement of how the challenged claims are to be construed” because “it relies on constructions advanced by Patent Owner in the related

litigation” but “also states that it *does not agree that those constructions are in fact correct.*” (emphasis in original)).

As discussed above, this is a case in which we apply the *Phillips* claim-construction standard, and Petitioner expressly disagrees with nearly all of the claim constructions it proffers, including at least one term in every challenged claim. Accordingly, given the analysis in *Western Digital* and *CareFusion*, with which we agree, we are not persuaded that we abused our discretion by concluding that Petitioner did not satisfy Rule 42.104(b)(3).

Hologic, 5-7.

Subsequent Board decisions have followed *Hologic*’s reasoning. *See, e.g., Orthopediatrics*, IPR2018-01548, Paper 9, 9 (denying institution as petitioner did not meet burden where “Petitioner’s contentions are limited to how the claim limitations at issue *should not be construed*”) (emphasis in original); *Samsung Elecs. of Am., Inc. v. Uniloc 2017 LLC*, IPR2020-00046, Paper 6, 10 (Apr. 1, 2020) (“We exercise our discretion and decline Petitioner’s invitation to adopt allegedly incorrect claim constructions and institute an *inter partes* review on the basis of those constructions.”) (denying institution); *see also Netflix, Inc. v. GoTV Streaming, LLC*, IPR2023-00757, Paper 18, 9 (Dec. 21, 2023) (“In *Hologic*, the Board decided that a party in an Office proceeding may not ‘expressly disagree’ with a claim-construction position in the proceeding and still advance the

disagreed-with position in the proceeding.”) (citing and distinguishing *Hologic*, 2-7).

These decisions indicating, *inter alia*, that a petitioner may not rely solely upon claim construction it expressly disagrees with in the petition are consistent with the Office’s policy. Notably, the Office made clear, in the preamble of the rulemaking associated with the switch from a “broadest reasonable interpretation” standard to a *Phillips*-style claim construction standard, the Office’s official “agree[ment] with “[s]everal comments [which] acknowledged that harmonizing the claim construction standards **would prevent parties from taking inconsistent positions ...**” *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51,340, 51350 (Oct. 11, 2018); *id.*, (““With a uniform application of the *Phillips* standard, patent challengers ... **will instead be required to choose a single claim construction that best captures the true meaning of the patent claim ...**”).

Petitioners unsuccessfully attempt to justify their approach by relying on *10X Genomics, Inc. v. Bio-Rad Labs., Inc.*, IPR2020-00086, Paper 8 (Apr. 27, 2020). Pet., 13. *Bio-Rad Labs, Inc.* is inapposite. It stands for the anodyne proposition that a Petitioners may rely, **in the alternative**, upon constructions they propose **and** the Patent Owner’s constructions. *Id.*; *Bio-Rad Labs, Inc.*, IPR2020-00086, Paper 8, 21 (“At least two of the panel decisions cited by Patent Owner

also recognize that a petitioner may offer alternative claim constructions.”). Importantly, *Bio-Rad Labs, Inc.* makes expressly clear that it is **not** addressing a situation like the one here, where a “petitioner ... rel[ies] solely on a claim construction it believes is incorrect.” *Bio-Rad Labs, Inc.*, IPR2020-00086, Paper 8, 22 (“[E]ven if our rules and guidance were correctly interpreted as prohibiting a petitioner from relying solely on a claim construction it believes is incorrect, that is not what Petitioner has done here. Petitioner proposes alternative claim constructions and presents at least one ground of unpatentability for each construction.”).

Petitioners also cite *Donnelly Distrib. LLC v. Russo Trading Co., Inc.*, IPR2019-00761, Paper 8 (Sept. 6, 2019). But *Donnelly* is yet another case where the petitioner argued a limitation (“grip portion”) was met **in the alternative** under both patent owner’s construction and its own “proper” construction. *See Donnelly*, Paper 2 (Petition), 29-31 (identifying patent owner’s construction of “grip portion”), 31-33 (presenting “proper” construction of “grip portion”), 43-44 (explaining that “grip portion” is met under both patent owner and petitioner’s constructions). Patent Owner “filed no response” and thus, “d[id] not address Petitioner’s proposed constructions, nor d[id] it offer any constructions of its own.” *Donnelly*, Paper 8, 8. The Board instituted without making any “express construction[s].” *Id.* Thus, *Donnelly*, only confirms that a petitioner may offer

invalidity reads under alternative constructions. *Donnelly* does **not** suggest that a petition may be instituted if it **only** relies upon constructions it expressly disagrees with in the petition.

Thus, the Board’s caselaw and the Office’s policy indicates that a petition may not be instituted if it is solely based upon constructions the petitioner expressly disagrees with. But even if, *arguendo*, Petitioners could rely solely upon claim constructions they expressly disagree with, the Petition should still be rejected because Petitioners misstate Patent Owner’s position. This is not just a case in which Petitioners expressly disavow in their own Petition the construction on which the Petition relies. It is a case where **no one** has advanced the construction on which the Petition relies. As Patent Owner explains in Section II.B, *infra*, Petitioners fail to demonstrate that Sesia discloses and/or renders obvious “path parameter information” for a specific “propagation path,” relying instead upon channel estimates that provide parameters relating to the combined effect of multiple propagation paths within a propagation channel—not for any individual propagation path within that channel or for any channel that consists only of a single propagation path. *Id.* Thus, even if a petitioner could proceed with claim construction positions it expressly disagrees with if the interpretation is consistent with a patent owner’s infringement position, Petitioners’ interpretation

of limitation 1.3 is **not** consistent with Patent Owner’s position, as explained in further detail above and in Section II.B.

Because Petitioners rely solely upon claim constructions they expressly disagree with in the Petition, and in the case of limitation 1.3, an interpretation that no one agrees with, Petitioners cannot satisfy their burden of proving a reasonable likelihood of prevailing. Consequently, institution should be denied.

B. Petitioners Fail To Show Channel Estimation That Obtains Path Parameter Information “Of The First Propagation Path” (Limitation 1.3) (All Claims).

Claim 1 requires “receiving [a] first signal” and “performing a channel estimation based on the first signal *to obtain path parameter information of the first propagation path.*” Ex. 1001 [’347] cl. 1. Thus, claim 1 requires “obtain[ing] path parameter information of the *first propagation path,*” *i.e.*, of a specific propagation path. Independent claims 8, 15 and 19 recite similar limitations. *See id.*, limitations 8.4, 15.3.2, 19.3.2.

The claimed method accords with the patent’s teachings, wherein “channel estimation” is employed to obtain path parameter information “for each of the *propagation paths* 170, 175, and 180”:

After the first signal is received 430 at the receiver 150, *a channel estimation algorithm is performed to obtain* the estimates of the delay τ , the Doppler frequency μ , and direction of arrival Ω_1 , the direction

departure Ω_2 , and the complex amplitude α ***for each of the propagation paths 170, 175, and 180.***

Ex. 1001 ['347] 8:11-16. The '347 further provides an exemplary formula where path parameter information is calculated for individual paths. *Id.*, 9:15-48 (describing an example “where path 170 corresponds to $i=1$ and path 180 corresponds to $i=2$ ”).

Petitioners contend that Sesia discloses obtaining path parameter information “of the first propagation path.” Pet., 33-35. As explained below, however, Petitioners fail to show that Sesia discloses obtaining path parameter information for any specific “propagation path,” let alone “the first propagation path.” Rather, all channel feedback information identified by Petitioners relate to the channel as whole, which undisputedly consists of numerous propagation paths, and reflects alleged “parameter information” for the collective impact of all propagation paths within the channel.

To argue that Sesia discloses “a plurality of propagation paths,” as recited in claim 1’s preamble, Petitioners annotate Sesia Fig. 20.1, showing a channel with three propagation paths in blue, orange and green:

Ex. 1003 at Fig. 20.1 (annotated); see also Ex. 1005, Fig. C.

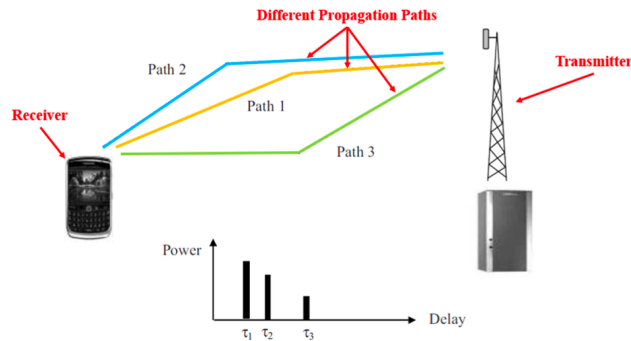


Figure 20.1: Multipath propagation and PDP.

Pet., 30 (annotation in original).

For limitation 1.1, “transmitting a first signal from the transmitter to the receiver via *a first propagation* path of the plurality of propagation paths,” Petitioners explain that the reference signal in Sesia is transmitted along at least one of the multiple propagation paths shown in the annotation immediately above. Pet., 30-31; Ex. 1005 [Proctor-Decl.] ¶ 121 (explaining that “the first signal is a reference signal that is transmitted by the transmitter along the at least one of the propagation paths that exist between the transmitter and the receiver.”).

For limitation 1.3, however, Petitioners do not even attempt to show that Sesia discloses obtaining path parameter information for any of the specific propagation paths Petitioners identified in the preamble, or for any other specific “propagation path.” Instead, Petitioners contend that obtaining path parameter information for a “channel” as a whole discloses obtaining path parameter

information for “the first propagation path.” *See, e.g.*, Pet., 32 (“Sesia discloses that this is possible because channel estimation attempts to describe the ‘channel model,’ which is controlled by the physical propagation characteristics of the ***channel (i.e., the propagation path)***.”) (citing Ex. 1003 [Sesia] 174-175).

But as Petitioners acknowledge in connection with the preamble and limitation 1.1, the channel identified by Petitioners from Sesia contains ***three*** “propagation paths” within it, and therefore is not equivalent to a single “propagation path” (e.g., the “first propagation path”). Pet., 18, 30-31. In fact, the very portion of Sesia cited by Petitioners for the disclosure of “channel estimation” confirms that the “channel model” depends on “the number of transmit and receive antennas,” conveying that the “channel estimate” in Sesia encompasses multiple propagation paths from multiple antennas. Ex. 1003 [Sesia] 174 (cited by Pet., 32); *see also* Ex. 1005 [Proctor-Decl.] ¶ 127 (discussing the same). Sesia further confirms that “the [reference] signal transmitted from each antenna port is not designed to be further deconstructed by the UE receiver,” but “enables the UE to ***derive a channel estimate for all data transmitted on that antenna port ...***” Ex. 1003 [Sesia] 167 (cited by Pet., 32).

Petitioners also rely on multiple input multiple output (MIMO) configurations for limitation 1.5 (but not 1.3), but, there too, Sesia explains that it obtains the channel estimate based on a channel model for a “multipath channel,”

which in turns means the estimate encompasses the combined effect of all the paths within the channel, and not of any individual path. *Id.*, 175 (“In the general case, each MIMO ***multipath channel*** component can experience different but related spatial scattering conditions leading to a full three-dimensional correlation function across the three domains.”); *id.* (“The Wide-Sense Stationary Uncorrelated Scattering (WSSUS) channel model is commonly employed for the ***multipath channels*** experienced in mobile communications.”).

The ’347’s specification also confirms that obtaining path parameter information for a channel consisting of multiple propagation paths is not the same as obtaining path parameter information for a specific propagation path. The ’347 explains that a “propagation channel” in an exemplary embodiment includes multiple “propagation paths” and, moreover, it is the “superposition” of those paths (*i.e.*, the combination of the paths) that constitutes the overall channel response:

Returning to FIG. 1, as understood by one of ordinary skill in the art, the impulse response of ***the propagation channel can be viewed as the superposition of multiple specular propagation paths 170, 175, and 180*** between a transmitter 110 and a receiver 150.

Ex. 1001 [’347] 7:33-37. Yet, the claimed method obtains path parameter information for a specific propagation path (*e.g.*, path 170, 175, or 180), ***not*** for the “propagation channel” as a whole (which includes all of those three paths). *Id.*,

8:11-16, 9:15-48, 16:40-51 (claim 1, reciting “obtain[ing] path parameter information of the first propagation path.”).

Notably, the ’347 emphasizes the “per-path” aspect of its inventive system when distinguishing the prior art:

In these [prior art] models, multiple paths characterized by delay, Doppler, directions and polarizations are added to reproduce the time-variant channels. While the user-focusing system and methods described herein utilize multiple propagation paths, *the concept of per-path-modulation and the pre-distortion method are different* from the method used the GSCM-based channel simulation.

Ex. 1001 [’347] 12:25-31.

Thus, Sesia and the ’347 both recognize that the propagation channel between a transmitter and a receiver may contain multiple propagation paths. Yet, the ’347’s claimed method requires obtaining path parameter information for a specific propagation path (specifically, “the first propagation path”), while Sesia only obtains an estimate for an entire channel that the Petition acknowledges includes *multiple* propagation paths such that the resulting information is not alleged to be “of” any specific propagation path. Petitioners ignore this difference.

Moreover, contrary to Petitioners’ suggestion, Patent Owner’s infringement contentions are entirely consistent with the understanding that the claims require “obtain[ing] path parameter information” for a specific “propagation path.” Unlike

Sesia, which transmits reference signals to estimate an entire channel consisting of numerous “propagation paths” (Ex. 1003 [Sesia] 167 (cited by Pet., 32)), the infringing devices implement the ’347’s inventive approach. They do so, *inter alia*, by using channel estimations applicable to narrow-band beams, which constitutes path parameter information of a *specific* “propagation path” (unlike the channels in Sesia which the Petition expressly alleges are made up of a plurality of propagation paths). *See, e.g.*, Ex. 1009 [Infringement-Contentions] 6 (“For example, the base station initially transmits *via a narrow-beam antenna* to the UE.”). The “path parameter information” is then obtained for each of the narrow-band beams, *i.e.*, “path parameter information of” each specific “propagation path” (including “path parameter information of the first propagation path”) is obtained. *Id.*, 7. That is distinct from the wide-band beam of LTE (and Sesia), where the propagation channel encompasses numerous “propagation paths,” and the channel estimate reflects the combined effect of all “propagation paths” contained within the channel.

Petitioners’ failure to show disclosure of limitation 1.3 does not depend on whether “path parameter information” can be disclosed by explicit or implicit channel feedback. Pet., 14-15. Petitioners contend that Sesia discloses both “explicit” and “implicit” feedback. *Id.*, 34-35. This, however, is irrelevant, as

neither of these alternatives are shown to obtain path parameter information for any specific “propagation path.”

The Petition also asserts, in conclusory fashion, that Sesia renders limitation 1.3 obvious. Pet., 36 (“Thus, Sesia discloses ***and/or renders obvious*** ‘performing a channel estimation based on the first signal to obtain path parameter information of the first propagation path.’”). Yet, Petitioners provide no analysis of any kind to explain why obtaining path parameter information for a specific “propagation path” as opposed to the entire channel would have been “obvious” based on Sesia alone. Nor do Petitioners identify what modification of Sesia would be made to address Sesia’s shortcoming or why a POSITA would be motivated to make the modification with a reasonable expectation of success. Petitioners’ conclusory assertion is legally insufficient to establish obviousness. *Magnum Oil*, 829 F.3d at 1380 (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”).

Indeed, supplying a “missing limitation” requires a “searching” inquiry.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362-63 (Fed. Cir. 2016). This is particularly so here where, as discussed, obtaining path parameter information for a specific path is an important part of the invention that is specifically identified as

an improvement over the prior art. *See* Ex. 1001 [’347] 8:4-16, 12:27-31. What is more, “common sense” can be used to supply a missing limitation “*only* when ‘the limitation in question [is] unusually simple and the technology particularly straightforward.’” *DSS Tech. Mgm’t v. Apple Inc.*, 885 F.3d 1367, 1374-75 (Fed. Cir. 2018) (citations omitted). Identifying path parameter information in the context of wireless communications, is hardly “unusually simple” and “straightforward.”

For the foregoing reasons, Petitioners fail to show disclosure of limitation 1.3, by failing to show obtaining path parameter information “of the first propagation path.”

III. THIS PETITION SHOULD BE DENIED UNDER *FINTIV* DUE TO THE ADVANCED STATE OF PARALLEL DISTRICT COURT LITIGATION.

Beyond the reasons for noninstitution set forth in Section II, institution should additionally be denied under *Fintiv*. 35 U.S.C. § 314(a) gives the Board discretion to deny institution of IPR due to the advanced state of parallel district court litigation regarding the same issues. *See NHK Spring Co. v. Intrix-Plex Techs., Inc.*, IPR2018-00752, Paper 8, 19-21 (Sept. 12, 2018) (precedential). The Board has set forth six factors for determining whether discretionary denial in light of such parallel litigation is appropriate, and in analyzing them, “takes a holistic view of whether efficiency and integrity of the system are best served by denying

or instituting review.” *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11, 5-6 (Mar. 20, 2020) (precedential) (“*Fintiv*”); *see also Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, 7-17 (May 13, 2020) (informative) (“*Fintiv II*”); Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (dated June 21, 2022) (“Interim Discretionary Denial Memo,” Ex. 1012).

Each of these six *Fintiv* factors weigh in favor of the Board exercising its discretion to deny institution here. For Factor 1, no stay of the parallel district court litigation has been granted, and a stay is unlikely given the advanced stage of the case. For Factor 2, the district court trial will occur over eight months before the deadline for a final written decision in this proceeding. For Factor 3, largely due to Petitioners’ delay in filing the Petition, there will be much investment by the parties and the district court—by the time the Board issues its institution decision, claim construction and fact discovery will be complete, and both opening and rebuttal expert reports (including Petitioners’ invalidity report and Patent Owner’s validity report) will have been served. For Factor 4, there is a perfect overlap in both the claims and art at issue in this proceeding and in the district court, and Petitioners’ limited *Sand Revolution* stipulation does little to quell the concerns of inefficiency and inconsistent rulings. For Factor 5, Petitioners are the defendants and intervenors in the parallel litigation. And for Factor 6, not only did Petitioners

unduly delay in filing their Petition, the Petition also fails to present a compelling challenge on the merits as it is founded upon claim constructions Petitioners adamantly disagree with and, even then, fails to show a reasonable likelihood of prevailing. Further still, Petitioners' co-real party-in-interest (Samsung) has filed a parallel petition, with a "copycat" of the entire ground in the Petition here but with an additional second ground, without either party providing any justification for filing (or instituting) two parallel petitions. Each of these factors is addressed in more detail below.

A. *Fintiv* Factor 1: The district court has not granted a stay, nor is there any evidence that a stay will be granted.

In the parallel district court proceeding involving the same challenged claims of the '347 and Petitioners (T-Mobile, AT&T, and Verizon are defendants, and Nokia and Ericsson are intervenors), the district court has not granted a stay pending IPR. Further, Petitioners have not requested such a stay, and there is no evidence that a stay will be granted.

And the facts here indicate that it is unlikely that the district court would grant a stay pending IPR, given the late stage of litigation. The parties have already exchanged infringement contentions, invalidity contentions, and claim construction disclosures; fact discovery is also well underway. Ex. 1011 [Docket-Control-Order] at 4-5. And by the time the Board's institution decision is due in this proceeding (June 11, 2024), the Court will have held its *Markman* hearing, fact

discovery will be complete, the parties will have exchanged opening and rebuttal expert reports, and trial will be less than four months away. *See id.*, 1, 3-4; Ex. 2001 [Notice-Markman-Hearing]. And trial is currently set for September 23, 2024—over eight months before the approximate deadline for a final written decision in this IPR (June 11, 2025). Ex. 1011 [Docket-Control-Order] at 1; *see* Section III.B, *infra*.

Thus, even if Petitioners were to file a motion for a stay pending this proceeding, it is highly unlikely Judge Gilstrap would grant a stay at this late juncture in the case. *See, e.g., TQ Delta, LLC v. CommScope Holding Co.*, 2022 WL 16720195, at *5 (E.D. Tex. Nov. 4, 2022) (Gilstrap, J.) (denying motion to stay pending IPR where claim construction and fact discovery were completed, and expert discovery was set to soon close); *Solas OLED Ltd. v. Samsung Display Co.*, 2020 WL 4040716, at *2 (E.D. Tex. July 17, 2020) (Gilstrap J.) (denying motion to stay pending IPR where claim construction and discovery were complete).

Where the district court litigation has not been stayed, no stay has even been sought- and any stay is speculative and unlikely, allowing this IPR to proceed in parallel would be wasteful and inefficient. Factor 1 weighs against institution.

B. *Fintiv* Factor 2: The district court trial will occur over eight months before the deadline for a final written decision in this proceeding.

“If the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising authority to deny institution under *NHK*.” *Fintiv*, at 9.

Here, the deadline for a final written decision in this IPR will be approximately June 11, 2025, which may be extended to December 11, 2025, for good cause or in the case of joinder.³ 37 C.F.R. § 42.100(c). Meanwhile, the district court litigation is set for trial on September 23, 2024. *See* Ex. 1011 [Docket-Control-Order] 1; Pet., 67. The timeframe set by the district court is consistent with the Federal Court Management Statistics for the Eastern District of Texas. *See* Interim Discretionary Denial Memo (Ex. 1012) at 3 & n.4 (encouraging use of these statistics in evaluating this factor). Those statistics indicate that, over the past six years, a civil case in the district was brought to trial 19.6 months after filing. Ex. 2003 [Trial-Statistics] (indicating median times to

³ Samsung has filed a petition with “the first ground of challenge (but not the Second) [being] a ‘copycat’ of the Petition” here, with a “substantively identical” expert declaration. Ex. 2002 [Samsung-Petition] at 1. Samsung further indicated it intends to move for joinder or consolidation if this Petition is instituted. *Id.* at 1 n.1.

trial for civil cases for the twelve-month period ending in December for 2018-2023 as 19.0, 17.8, 17.5, 23.0, 19.0, and 21.4). Here, trial is set approximately 21 months after the cases were filed. *See* Ex. 1011 [Docket-Control-Order] 1 (trial set for September 23, 2024); Exs. 2004-2006 (parallel cases filed December 15-16, 2022).

Thus, the district court trial is set to occur *over eight months* before the deadline for a final written decision, and possibly over a year before the deadline if extended. “A trial date about *eight or nine months* before [the Board’s] statutory due date *weighs heavily in favor of discretionary denial.*” *Zhuhai Cosmox Battery Co., Ltd. v. Ningde Amperex Tech. Ltd.*, IPR2023-00585, Paper 12, 11-13 (Oct. 24, 2023) (“*Zhuhai*”); *see also, e.g., Samsung Elecs. Co., Ltd. v. Mojo Mobility Inc.*, IPR2023-01094, Paper 11, 8-9 (Feb. 9, 2024) (“*Mojo*”) (denying institution when trial was set *six months* before the final written decision would issue); *BOE Tech. Grp. Co., Ltd. et al. v. Element Capital Commercial Co.*, IPR2023-00808, Paper 9, 21-22 (Nov. 15, 2023) (“*BOE*”) (same); *Vector Flow, Inc. v. HID Global Corp.*, IPR2023-00353, Paper 8, 19-20 (July 17, 2023) (“*Vector Flow*”) (same); *Roku, Inc. v. IOEngine, LLC*, IPR2022-01551, Paper 11, 10-11 (May 5, 2023) (“*Roku*”) (same); *Int’l Bus. Machs. Corp. v. Digital Doors, Inc.*, IPR2023-00970, Paper 7, 10-11 (Jan. 12, 2024) (denying institution where “trial would occur about *five months* before the statutory deadline”).

Indeed, the Board has denied institution on account of even substantially smaller gaps between the final written decision and trial. *See, e.g., EClinicalWorks, LLC v. Decapolis LLC*, IPR2022-00229, Paper 10, 9 (Apr. 13, 2022) (“*EClinicalWorks*”) (finding this factor weighed in favor of discretionary denial and denying institution where “the beginning of the jury trial in the WDTX Cases is roughly **one or two months** before any final decision would have been due had *inter partes* review been instituted”) (emphasis added); *Fintiv II*, 13 (finding this factor weighed in favor of discretionary denial and denying institution where the district court trial was scheduled to occur **two months** before the deadline for the Board to reach a final written decision); *NXP USA, Inc. v. Impinj, Inc.*, PGR2022-00005, Paper 18, 9 (May 2, 2022) (“*NXP*”) (same), *reh’g denied*, Paper 20 (Aug. 25, 2022).

Petitioners imply that the Board should ignore this set trial date “[b]ecause much can change in approximately nine months.” Pet., 67.⁴ But the Petition

⁴ The Petition also states “the trial date in the Samsung litigation is not set to begin until at least May 5, 2025.” Pet., 67. The trial date in a case with different parties is not relevant to the analysis here. Moreover, even the trial date in the Samsung litigation is still over a month before the expected final written decision in this proceeding. *See, e.g., EClinicalWorks*, 9.

presents no evidence that trial will not proceed on the set date, which, as noted above, is consistent with the most current time-to-trial statistics for the Eastern District of Texas.

The case the Petition cites on this point (Pet., 67) is distinguishable. In *Dish Network LLC v. Broadband iTV, Inc.*, a motion to transfer was pending, which if granted, would inevitably cause the trial date to be moved and, moreover, there was also only a three-month time gap between the scheduled trial date and the statutory deadline for the final written decision, leaving little time for a new trial to be scheduled before the Board's final decision issued. *Dish Network LLC v. Broadband iTV Inc.*, IPR2020-01280, Paper 17, 16-18 (Feb. 4, 2021) (“*Dish*”). (“[W]ith trial currently scheduled for less than three months before the due date for the final written decision and a motion to transfer pending, there is at least some persuasive evidence that delays are possible.”). *Dish*, thus, stands in stark contrast with the present case where there is an eight-month gap (rather than a three-month gap) and no motion to transfer pending. Here, “based on the evidence of record, there is no evidence to suggest that trial will be delayed.” *Nine Energy Serv. Inc. v. NCS Multistage Inc.*, IPR2020-01615, Paper 18, 9 (Mar. 24, 2011); *see also NXP*, 9 (“We generally take courts’ trial schedules at face value absent some strong evidence to the contrary.”) (quoting *Fintiv II*, 13).

Because the district court trial is currently set to occur over eight months before the earliest deadline for a final written decision in this IPR, this date is consistent with current time-to-trial statistics, and there is no evidence that this date may change, this factor weighs heavily against institution. *Fintiv II*, 13.

C. *Fintiv* Factor 3: By the time an institution decision is reached, fact discovery will be complete and opening and rebuttal expert reports will have been served.

Factor 3 relates to the “amount and type of work already completed in the parallel litigation by the court and the parties *at the time of the institution decision*.” *Fintiv*, 9 (emphasis added). For example, “if, at the time of the institution decision, the district court has issued substantive orders related to the patent at issue in the petition,” this factor favors denial. *Id.*, 9-10. “Likewise, district court claim construction orders may indicate that the court and parties have invested sufficient time in the parallel proceeding to favor denial.” *Id.*, 10.

Here, an order resulting from the May 2, 2024 *Markman* hearing (Ex. 2001) will likely issue prior to the June 11, 2024 deadline for the institution decision; the *Markman* decision would clearly qualify as a “substantive order.” But even if the *Markman* order does not issue prior to the institution decision, the district court’s docket control order includes all deadlines, including the trial date; by the time the institution decision issues, fact discovery will be complete, and the parties will have exchanged opening expert reports. Ex. 1011 [Docket-Control-Order] 3-4.

Notably, by the time of the institution decision, Petitioners will have completed their opening invalidity report, which is expected to overlap with the invalidity grounds presented in this IPR. *See* Section III.D, *infra* (discussing Petitioners’ raising Sesia and related LTE references in preliminary invalidity contentions). Further, under the Court’s schedule, at the deadline for the institution decision (June 11, 2024), Patent Owner will also have served its rebuttal validity expert report, which is due June 3, 2024, further adding to the parties’ investments under Factor 3. *See* Ex. 1011 [Docket-Control-Order] 3. And as the deadline to complete expert discovery is June 14, 2024, the parties will have either taken expert depositions or will be in the midst of preparing for them when the institution decision issues.

All of this investment weighs strongly against institution because it ensures that this IPR cannot be an efficient alternative to district court litigation. In *Samsung Electronics Co. v. California Institute of Technology*, the Board denied institution in nearly identical circumstances, and for Factor 3, found that “the advanced stage of expert discovery is the most significant fact for our analysis.” *Samsung Elecs. Co. v. Cal. Inst. of Tech.*, IPR2023-00137, Paper 10, 12 (May 4, 2023). “In particular, the scheduling order in the underlying litigation indicates that Petitioner should have already served its opening expert report on validity [at the time of the institution decision]. Given that the deadline for rebuttal expert

reports is only days away, we can also safely assume that work pertaining to a rebuttal expert report on validity is well underway. We consider this work significant because it relates to the merits of the parties' invalidity positions.” *Id.* (citations omitted); *see also Zhuhai*, 13 (denying institution in part because opening expert reports were served before the institution decision issued); *Vector Flow*, 21 (same); *Duplo USA Corp. v. MGI Digital Tech. SA*, IPR2023-00936, Paper 8, 17-18 (Dec. 5, 2023). The district court case will be at an even more advanced stage here, as not only will opening reports have been served, but rebuttal reports will also likewise have been served and the close of expert discovery will be days away.

Thus, the parties and the district court will have invested significant time and resources in the district court litigation by the time the Board reaches an institution decision in this matter. This favors discretionary denial, and various panels have found this factor to favor denial even when the parallel litigation was at less advanced than here. *Fintiv*, 10; *Fintiv II*, 13-14 (finding that “the level of investment and effort already expended on claim construction and invalidity contentions” favored denial where the parties had exchanged final contentions, a *Markman* hearing was held, the court had entered a claim construction order, and discovery had begun); *BOE*, 23-24 (denying institution in part because claim

construction was complete and fact discovery was nearly completed); *Roku*, 12 (same); *Mojo*, 9 (same).

Of course, the reason that the district court litigation will be so far along at the time of institution—with fact discovery and claim construction complete, and expert discovery well underway—is because Petitioners unduly delayed in filing their Petition, filing just over two weeks before the statutory deadline. *Compare* Pet., 69 (dated December 4, 2023) *with* Exs. 2007-2009, 2014 (defendants served December 19-21, 2022).

In addition, Patent Owner served its ***preliminary infringement contentions over eight months before*** the Petition was filed (Exs. 2010-2012), and Petitioners served their ***preliminary invalidity contentions over six months before*** it initiated this proceeding (Ex. 2013 [Invalidity-Contentions] 40-42). The same is true for petitions that the same Petitioners filed on the other three patents asserted in the parallel litigation. Ex. 2015 [IPR2024-00135-Petition] 49; Ex. 2016 [IPR2024-00137-Petition] 66-67; Ex. 2017 [IPR2024-00138-Petition] 76-77 (three other petitions filed November 22, 2023 through December 4, 2023). The Petition offers no explanation for Petitioners' delay, and in particular, there is no reason why Petitioners could not have filed this Petition at the same time as or soon after their preliminary invalidity contentions, which raised the same invalidity ground for the same claims as challenged in the Petition. *Compare* Pet., 6 (Obviousness based on

Sesia) *with* Ex. 2013 [Invalidity-Contentions] 11, 14, 18-20 (relying on Sesia in various proposed anticipation and obviousness grounds, including Sesia as a single-reference obviousness]; Section VI.D, *infra*.

The Board has found lack of diligence in similar circumstances. For example, in *Ericsson Inc. v. Collision Communications, Inc.*, the Board “d[id] not agree with Petitioner’s view that filing the Petition less than *nine months* after receiving infringement contentions constitutes filing the Petition promptly.”

Ericsson Inc. et al. v. Collision Comms., Inc., IPR2022-01233, Paper 12, 15 (Jan. 19, 2023) (emphasis added, quotation marks omitted). The Board denied institution, and also noted that, like here, “Petitioner waited almost a year from inception of the [parallel] district court proceeding” to file the petition. *Id.*

Because there has been substantial investment in the parallel proceedings by both the parties and the district court, and Petitioners unduly delayed in filing the Petition, Factor 3 weighs heavily against institution.

D. *Fintiv* Factor 4: There is perfect overlap between this IPR and the district court proceeding.

This factor looks at “whether all or some of the claims challenged in the petition are also at issue in district court” and whether the “petition includes the same or substantially the same claims, grounds, arguments, and evidence” as the parallel district court case. *Fintiv*, 12-13. Here, there is complete overlap of the

challenged and asserted claims, and the same art applied in the Petition is also relied upon at the district court.

First, the Petition challenges the same claims that are currently asserted in the litigation. *Compare* Pet., 6 (challenging claims 1-4, 6-12, 14-17, 19-23) *with* Ex. 2010 [ATT-Infringement-Contentions] 1; Ex. 2011 [Verizon-Infringement-Contentions] 1; Ex. 2012 [T-Mobile-Infringement-Contentions] 1; Ex. 2013 [Invalidity-Contentions] 2 (identifying asserted claims 1-4, 6-12, 14-17, 19-23); *see also Vector Flow*, 22 (denying institution in part because the same claims were challenged at the PTAB and asserted in litigation); *EClinicalWorks*, 12 (same).

Second, as noted above, the sole ground in the Petition is based Sesia alone. *See* Pet., 6. Petitioners rely on this same reference in the district court litigation for various invalidity grounds, including anticipation and single-reference obviousness (Ex. 2013 [Invalidity-Contentions] 14 (alleging that references on Charts A-01 through A-07 may anticipate or render obvious the challenged claims); *id.* 18 (indicating Sesia is the reference charted in A-06)) as well as various other obviousness grounds involving Sesia (*id.* 19-20). There is, thus, perfect overlap in the prior art invalidity theories presented to the PTAB and the district court.

Further, Petitioners' limited *Sand Revolution* stipulation that, "if instituted, Petitioner[s] stipulate[] that it will not pursue invalidity against the asserted claims in the district court using the specific combination of prior art references set forth

in the grounds presented in this Petition” (Pet., 68) does not alleviate inefficiency concerns. *See* Interim Discretionary Denial Memo (Ex. 1012) at 3; *see also, e.g., 3Shape Trios A/S v. Densys Ltd.*, Case IPR2021-00236, Paper 12 at 11-12 (May 20, 2021) (denying institution, rejecting a similar stipulation because it “is too narrow to clarify that it will not pursue any ground that could have reasonably been raised in an IPR,” and noting that “a broader stipulation might better address concerns regarding duplicative efforts and potentially conflicting decisions”). With this *Sand Revolution* stipulation, as opposed to a *Sotera* stipulation, Petitioners are agreeing to far less than what even would be the natural consequences of the case proceeding to a final written decision. *See, e.g., Cal. Inst. of Tech. v. Broadcom Ltd.*, 25 F.4th 976, 991 (Fed. Cir. 2022) (“overrul[ing] *Shaw* and clarify[ing] that estoppel applies not just to claims and grounds asserted in the petition and instituted for consideration by the Board, but to all grounds not stated in the petition but which reasonably could have been asserted against the claims included in the petition.”).

And this stipulation is especially meaningless here. Specifically, under this stipulation, the only ground for which Petitioners would be estopped is Sesia as a single-reference obviousness ground, but in the district court litigation, Petitioners have also alleged that Sesia anticipates the asserted claims and that Sesia in combination with other references render those claims obvious. Ex. 1013

[Invalidity-Contentions] 14, 18-20. In fact, of the proposed combinations listed in nine sections of bullet-pointed text in Petitioners' invalidity contentions, eight of the nine bullets include Sesia. *Id.* 19-20. In addition, Petitioners' Sesia reference that forms the basis of their IPR challenge states that it is a "thorough, authoritative and complete tutorial" of LTE and LTE- Advanced communications systems. Ex. 1003 [Sesia] xxvii (quoted by Pet., 16). Petitioners' district court invalidity contentions are filled with citations to other LTE and LTE advanced references. *See, e.g.*, Ex. 2013 [Invalidity-Contentions] 11 (Holma & Toskala, LTE for UMTS (2009); Holma & Toskala, LTE for UMTS (2011); (Dahlman & Parkvall, 4G LTE-Advanced for Mobile Broadband; Ahmadi, LTE-Advanced); *see also Vector Flow*, 22 (finding a substantial overlap in grounds where, in the parallel litigation, petitioner relied on the issued version of the application it relied on in the IPR as well as other references with similar disclosures). And Petitioners' invalidity contentions are voluminous, such that other identified art likely contain cumulative disclosures relating to LTE as well. *See generally id.*; *see also Mojo*, 13.

In short, the Petition challenges the same claims asserted in the parallel litigation, and uses the same art as relied upon in the district court. This raises substantial "concerns of inefficiency and the possibility of conflicting decisions," and weighs against institution. *See Fintiv*, 12.

E. *Fintiv* Factor 5: Petitioners are the defendants and intervenors in the district court litigation.

Petitioners are the defendants and intervenors in the parallel litigation.

“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.” *Fintiv II*, 15.

F. *Fintiv* Factor 6: Other circumstances weigh strongly against institution, including the weakness of the Petition, Petitioners’ delay, and a parallel petition with an identical ground.

This factor looks at “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, 6. This factor weighs heavily against institution.

First, the merits of the petition are weak. As discussed in Section II.A, the Petition is exclusively based upon claim interpretations Petitioners expressly disagree with. *See, e.g.*, Pet., 14 (characterizing interpretations as “broad” and “not consistent with the plain and ordinary meaning ...”). Significantly, Petitioners do not contend that the claims as a whole are invalid under *any* set of constructions that they agree or, at least, do not expressly disagree with. As discussed in Section II.A, the Board’s caselaw and Office policy confirm that a petitioner may not premise a petition solely upon claim constructions it expressly disagrees with.

Even if that could be overlooked, the Petition’s sole reference, Sesia, implements the prior art approach that the ’347 expressly improved upon. Specifically, ’347 explains that a “propagation channel” in an embodiment consists

of the combination of multiple “propagation paths.” Ex. 1001 [’347] 7:33-37. The ’347 then explains that its inventive method obtains path parameter information “for of the propagation paths,” not for the “propagation channel” as a whole. The claims, in accord, require “obtain[ing] path parameter information of the first propagation path.” *See, e.g., id.*, cl. 1. Yet, Petitioners’ reference, Sesia, does not obtain path parameter information for any specific “propagation path,” but only for the propagation channel as a whole, which in Sesia undisputedly contains multiple propagation paths. *See* Section II.B, *supra*. The Petition does not dispute that, but *ignores* the difference and simply equates, without explanation or justification, Sesia’s “channel” with the claimed “propagation path,” even though the Petition itself admits that Sesia’s channel consists of multiple propagation paths. Thus, the Petition’s merits are not at all compelling.

Second, as noted, there is evidence that Petitioners unduly delayed in filing the Petition, as discussed above for Factor 3, and Petitioners offer no explanation for their delay. *See* Section III.C, *supra*.

Third, *Fintiv* has also explained that “[o]ther facts and circumstances may also impact the Board’s discretion to deny institution[,]” including “parallel petitions challenging the same patent[.]” *Fintiv*, 16. And, as discussed in Section IV, *infra*, this factor too, strongly favors noninstitution. Petitioners and their co-real party-in-interest did not bring just one IPR challenging the ’347 patent, rather,

Petitioners raised the present petition while another real party in interest, Samsung, brought a “copycat” petition two weeks later raising the exact same Sesia ground, as well as another unrelated ground, challenging exactly the same patent claims, without any explanation for why a second petition is necessary or which petition should be given priority. *See* Section IV. Thus, in reality, Petitioners and their co-real party-in-interest seek not just two bites at the apple but, rather, four, one at the district court trial involving Petitioners, a second in a proceeding here, a third in Petitioners’ real party-in-interest’s district court trial, and a fourth in the real party-in-interest’s IPR proceeding.

This is precisely the sort of harassment of patent owners the AIA was meant to avoid. Congress intended IPRs to provide ““quick and cost effective alternatives to litigation”” and to ““establish a more efficient and streamlined patent system that will improve patent quality[.]”” *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1317 (Fed. Cir. 2018) (quoting H. REP. NO. 112-98, 40, 48 (2011)). “Congress recognized the importance of protecting patent owners from patent challengers who could use the new administrative review procedures as ‘tools for harassment’” via ““repeated litigation and administrative attacks on the validity of a patent.”” *Id.* (quoting H. REP. NO. 112-98, 40). Protecting patent owners from “repeated” and “harassing” attacks is the impetus behind, not just *Fintiv*, but numerous other Board precedents. *See, e.g., Gen. Plastic Indus. Co., Ltd. v. Canon*

Kabushiki Kaisha, IPR2016-01357, Paper 19, 16-17 (Sept. 6, 2017) (“*Gen. Plastic*”) (precedential) (recognizing “the potential for abuse of the review process by repeated attacks on patents”); *Valve Corp. v. Elec. Scripting Prods. Inc.*, IPR2019-00062, Paper 11, 15 (Apr. 2, 2019) (precedential) (similar).

* * *

Each of the six *Fintiv* factors weigh in favor of the Board exercising its discretion to deny institution.

IV. PETITIONERS AND THEIR REAL PARTIES-IN-INTEREST DO NOT JUSTIFY PARALLEL PETITIONS DIRECTED TOWARDS THE ’347 PATENT.

Even if institution were appropriate, Petitioners and their co-real party-in-interest (Samsung Electronics Co., Ltd.) have not justified two parallel petitions directed towards the ’347 patent.

To date, two IPR petitions—the present petition (“First Petition”) and IPR2024-00319 petition (“Second Petition”)—have been filed challenging the ’347. The First Petition was filed on December 4, 2023 and identifies each of the Petitioners as real-parties-in-interest (“RPIs”) and “likewise identif[ies] Samsung Electronics Co., Ltd. Because its products are accused of infringement in the AT&T, T-Mobile, and Verizon actions, and Samsung Electronics Co., Ltd. has been named as a defendant in the [district court] litigation ...” Pet., 2-3. The Second Petition was filed two weeks later by Samsung Electronics Co., Ltd. and

Samsung Electronics America, Inc. (“second petitioners”) and it too identifies several petitioners from the First Petition as RPIs. Ex. 2002 [IPR2024-00319-Petition] 73-74 (“... Petitioners likewise identify T-Mobile USA, Inc., AT&T Services Inc., AT&T Corp., AT&T Mobility, LLC, and Cellco Partnership d/b/a Verizon Wireless [as RPIs] because Petitioners’ products are accused of infringement in their respective patent infringement actions.”).

Thus, two petitions challenging the ’347 were filed within two weeks by nominally different petitioners but each petition identifies at least one petitioner from the other as an RPI. The two petitions, moreover, overlap substantially as they challenge the very same claims and the Second Petition raises an “identical” or “copycat” first ground. Ex. 2002 [IPR2024-00319-Petition] 1 (“Petitioners note that the first ground of challenge (but not the second) in this Petition is a ‘*copycat*’ of the Petition filed in ... IPR2024-00136 ... Ground 1 of this Petition and the sole ground of the Carriers’ Petition challenge the same claims using the same prior art and for the same reasons. Both grounds cite to substantively identical expert testimony, and otherwise cite to the same exhibits.”), 72 (“An IPR Petition against the ’347 patent was recently filed by T-Mobile et al (collectively the ‘Carrier Petitioners’) in IPR2024-00136. That Petition has the *identical ground of challenge* based on Sesia as this Petition (Ground 1), but does not include this Petition’s ground of challenge based on Forenza (Ground 2).”).

Petition	Challenged Claims	Ground(s)
First Petition (IPR2024-00136)	1-4, 6-12, 14-17, 19-23	Obviousness over Sesia
Second Petition (IPR2024-00319)	1-4, 6-12, 14-17, 19-23	Obviousness over Sesia Obviousness over Forenza

The two petitions, moreover, rely upon substantially identical claim construction sections wherein the petitioner purports to rely on Patent Owner’s interpretations of the claims. *Compare* Pet., 13-16 with Ex. 2002 [IPR2024-00319-Pet.] 10-13.

Neither the petitioners of the First Petition nor the Second Petition attempts to explain why both petitions should be instituted in view of the Office’s presumptive prohibition on parallel petitions. The Consolidated Trial Practice Guide (“CTPG,” Nov. 2019 Update) indicates that at most one petition per patent is sufficient “in most situations,” that “multiple petitions by a petitioner are not necessary in the vast majority of cases,” and that multiple petitions challenging a particular patent should be “rare.” CTPG, 59.

This presumptive prohibition applies to petitions filed by the same petitioner *or their real parties-in-interest*. As the Office confirmed, petitions filed, respectively, by petitioners and their RPIs may qualify as “parallel petitions”:

To take into account the 35 U.S.C. 316(b) and 326(b) considerations of the economy, the integrity of the patent system, and the ability of the USPTO to provide timely and cost-effective PGRs, as outlined in the AIA, the USPTO has developed factors to consider when determining whether to institute an AIA review under several different circumstances, including when ... (3) ***more than one petition is filed by the same petitioner (or privy or real party in interest with a petitioner)*** at the same time as the first filed petition or up until the filing of the preliminary response in the first filed proceeding (“parallel petitions”) ...

Changes Under Consideration to Discretionary Institution Practices, Petition Word-Count Limits, and Settlement Practices for America Invents Act Trial Proceedings Before the Patent Trial and Appeal Board, 88 Fed. Reg. 24503, 24506 (Apr. 21, 2023).

Thus, the Office has confirmed that when, as here, a petitioner and “a real party in interest with [that] petitioner” file petitions directed towards the same patent “at the same time as the first filed petition ***or up until the filing of the preliminary response in the first filed proceeding***,” the two petitions are treated as “parallel petitions.” *Id.* The Office’s public policy, in this regard, conforms to the purposes of the AIA which was crafted to “prevent not only petitioners, but *also* real parties in interest, from requesting or maintaining alternative administrative attacks ... ‘on any ground that the petitioner raised or reasonably could have raised during that inter partes review.’” *Applications in Internet Time, LLC v. RPX Corp.*,

897 F.3d 1336, 1349 (Fed. Cir. 2018); *see also SharkNinja Operating LLC v. IRobot Corp.*, IPR2020-00734, Paper 11, 20 (Oct. 6, 2020) (precedential) (“We understand that ‘[patent owners] should not be forced to defend later ... administrative attacks on the same or related grounds by a party that is so closely related to the original petitioner as to qualify as a real party in interest.’”) (quoting *AIT*, 897 F.3d at 1350); *RPX Corp. v. Applications in Internet Time, LLC*, IPR2015-01750, Paper 128 (Oct. 2, 2020) (“[T]he purpose of the RPI provision in IPRs was to protect patent holders from multiple petitions.”) (citing *AIT*, 1349-1350).

Relatedly, in the related context of assessing *serial* petitions, the Board has confirmed the importance of determining the significance of “any relationship” between the first petitioner and the second petitioner in applying the *General Plastic* factors. *Valve Corp. v. Elec. Scripting Prods., Inc.*, IPR2019-00062, Paper 11, 2 (precedential) (“[W]hen different petitioners challenge the same patent, we consider any relationship between those petitioners when weighing the General Plastic factors.”) (finding “significant relationship” between co-defendants accused of infringing patent based upon devices sold by one defendant incorporating technology licensed from the other). Just as the Board considers “*any* relationship” between petitioners in the context of *serial* petitions it too must

consider an RPI relationship between petitioners in the context of *parallel* petitions.

Here, by mutual admission, the petitioners in the two cases are RPIs of one another. Moreover, just as in *Valve*, the pairs of petitioners here are both accused of infringement with respect to the very same products. *See* Pet., 2 (“Petitioners likewise identify Samsung [] [as an RPI] because its products are accused of infringement in the AT&T, T-Mobile, and Verizon actions, and Samsung [] has been named as a defendant in the litigation”); Ex. 2002 [IPR2024-00319-Pet.] 73-74 (“...Petitioners likewise identify T-Mobile USA, Inc., AT&T Services Inc., AT&T Corp., AT&T Mobility LLC, and Cellco Partnership d/b/a Verizon Wireless because Petitioners’ products are accused of infringement in their respective patent infringement actions.”). Thus, the petitioners are both self-admitted mutual RPIs *and* they also have the very same “substantial relationship” identified in *Valve*.

Similarly, it would also make no sense for the Board to allow an RPI to proceed with a second IPR proceeding when it will be moot if a final written decision issues in the earlier case. 35 U.S.C. § 315(e)(1) (“The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision ... *or the real party in interest ... of the petitioner may not ... maintain a proceeding before the Office* with respect to that claim on any ground

that the petitioner raised or reasonably could have raised during that inter partes review.”).

Consequently, IPR2024-00136 and IPR2024-00319 should be treated as “parallel petitions.” As such, Petitioners here, or at the very least the petitioners in the Second IPR, should have identified:

(1) a ranking of the petitions in the order in which it wishes the Board to consider the merits, if the Board uses its discretion to institute any of the petitions, and (2) a succinct explanation of the differences between the petitions, why the issues addressed by the differences are material, and why the Board should exercise its discretion to institute additional petitions if it identifies one petition that satisfies petitioner’s burden under 35 U.S.C. § 314(a).

CTPG, 59-60. But no ranking of the petitions has been provided in either proceeding, nor is any explanation provided as to why any differences in the issues addressed by each are “material.” The Second Petition merely confirms that its first ground (concerning Sesia) is “identical” to the first ground in the First Petition, to which it appends a second ground (concerning Forenza) on the same claims challenged by the first ground.

Neither petition, moreover, makes any attempt to justify two petitions against the ’347. The CTPG indicates that a second petition may be “necessary ... when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date requiring arguments under multiple prior art

references.” CTPG, 59. Neither set of petitioners, however, argues that these or any other exceptions should apply. Nor could they.

Both petitions challenge *exactly* the same set of claims, under *exactly* the same claim construction regime, and both raise *exactly* the same Sesia ground. The Board routinely rejects second petitions in the face of such overlap. *DISH Network LLC v. Broadband iTV, Inc.*, IPR2020-01360, Paper 15, 6 (Feb. 15, 2021) (rejecting second petition where same secondary references are employed and the same claims are challenged); *Applied Materials, Inc. v. Demaray LLC*, IPR2021-00105, Paper 13, 10 (May 12, 2021) (“Patent Owner’s arguments illustrate that there are more similarities than material differences between the challenges set forth in the petitions. Petitioner’s arguments highlight these similarities.”) (rejecting second petition); *Google LLC v. Uniloc 2017 LLC*, IPR2020-00448, Paper 11, 8 (July 9, 2020) (“Finally, as to Petitioner’s [efficiency argument], the fact that both petitions are based on the same prior art and are each directed to one claim—both of which are nearly identical—weighs against institution here. The highly duplicative nature of these two petitions and the small number of claims at issue further indicates that one petition should have been sufficient.”); *Apple Inc. v. SEVEN Networks, LLC*, IPR2020-00254, Paper 13, 7-11 (Jul. 28, 2020) (“The instant Petition does not contain sufficiently material differences to support instituting an additional *inter partes* review of the ’127 patent.”).

The *only* difference is the Second Petition *adds* an additional ground challenging those same patent claims, but this just confirms that one petition was sufficient to begin with—the petitioners who filed the First Petition apparently saw no need to include it. Nor is any suggestion made that this second, Forenza ground is added to address some priority date question, different claim construction, or because it has some material difference with Sesia. Instead, Forenza, in the second petitioners’ own words, is merely “another example,” just like Sesia:

The problem with the ’347 Patent and Patent Owner’s allegations is that beamforming in a time-domain, a frequency-domain, and a spatial-domain was part of the prior art 4G standard, *and numerous textbooks have been written* describing the channel estimation and beamforming capabilities of LTE. *One example is Sesia* et al., “LTE: The UMTS Long Term Evolution from Theory to Practice” (“Sesia”). *Forenza provides another example* of beamforming multiple propagation paths using information from a training signal.

Ex. 2002 [IPR2024-00319-Pet.] 2; *id.*, 25 (“(‘Forenza’) discloses a *similar system*”). Further underscoring that even Petitioners’ co-RPIs consider the Second Petition duplicative is the fact that the second petitioners consider consolidation and joinder to be equivalent. *Id.*, 1, n.1 (“If IPR2024-00136 is instituted, Petitioners *intend to move either for consolidation or joinder.*”).

Thus, the only difference between the two petitions is the addition of a second ground, identified as just “another example” of a “similar system.” The

duplicative Forenza ground is not rooted in some sort of material difference that might justify a second petition. *Commscope Techs. LLC v. Dali Wireless Inc.*, IPR2020-01409, Paper 10, 7 (Feb. 10, 2021) (“Petitioner does not explain why the differences between the prior art applied in the two petitions are material.”) (denying parallel petition); *Apple Inc. v. Masimo Corp.*, IPR2020-01723, Paper 8, 12 (May 12, 2021) (“Petitioner does not articulate why the mere presence of different asserted prior art combinations based on alleged and unspecified different motivations to combine is sufficient to overcome the inefficiencies and burden to the Board and Patent Owner that would result from institution of an inter partes review based on each of the Concurrent Petitions.”); *Roku, Inc. v. Universal Elecs., Inc.*, IPR2021-00262, Paper 9, 10 (July 9, 2021) (“Petitioner does not explain adequately why the mere fact that the petitions argue that different references teach ‘instruction data’ in different ways warrants more than one inter partes review of the challenged claims. Thus, Petitioner has not shown why the differences between the petitions amount to a material difference warranting institution of the present Petition.”).

Thus, the Board should only, at most, consider a single petition directed towards the ’347. Petitioners and their co-RPI have filed two petitions challenging the same claims of the same patent, under the same ground, and rooted in the same claim construction analysis. The second petition is not rooted in any contingency

relating to a priority date or claim construction or as a consequence of any material difference. Instead, it is just “another example” of a “similar system.” Petitioners and their co-RPI have not adequately justified two petitions directed towards the same claims of the ’347 patent.

V. CONCLUSION

For the foregoing reasons, the Petition should be denied.

Respectfully submitted,

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Date: March 11, 2024

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner Preliminary Response (the “POPR”) consists of 11,774 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The POPR complies with the type-volume limitation of 14,000 words as mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

Respectfully submitted,

/ Parham Hendifar /

Date: March 11, 2024

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the following documents were served by electronic service, by consent between the parties (Pet. at 4), on the date signed below:

PATENT OWNER'S PRELIMINARY RESPONSE

EXHIBITS 2001-2018

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