

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMERICAN HONDA MOTOR CO., INC.,
Petitioner,

v.

NEO WIRELESS LLC,
Patent Owner.

Case IPR2023-00797
Patent 10,771,302 B2

PATENT OWNER'S PRELIMINARY RESPONSE

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2011	Neo Wireless LLC v. Volkswagen et al, 1:22-CV-76, Return of Service of Summons and Complaint [POS-VW-Inc.]
2012	Neo Wireless LLC v. Volkswagen et al, 1:22-CV-76, Return of Service of Summons and Complaint [POS-VW-LLC]

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2022	Hang Zhang, et al, <i>Initial Ranging Overhead Reduction</i> , IEEE 802.16 Broadband Wireless Access Working Group, Jul. 7, 2004 [Zhang-First-Submission]

2023	Hang Zhang, et al, <i>Enhanced Paging with Assigned Ranging Code – Harmonization Ad-hoc Consensus Contribution</i> , IEEE 802.16 Broadband Wireless Access Working Group, Aug. 28, 2004 [Kitroser-Second-Submission]
2024	Hang Zhang, et al, <i>Enhanced initial ranging and BW request ranging</i> , IEEE 802.16 Broadband Wireless Access Working Group, Aug. 28, 2004 [Zhang-Second-Submission]

I. INTRODUCTION

The Petition should be denied both based on the Board's discretion and on the merits. Procedurally, the Petition is a veritable showcase of the classic hallmarks of petitions that should be denied under 35 U.S.C. § 314(a). *See* Section II, *infra*. Every classic *General Plastic* factor, and even factors beyond those expressly listed in the *General Plastic* case, supports denial of institution of this Petition, which was quite deliberately filed as a serial attack intentionally spaced in time from a prior attack against the same patent filed by a co-defendant of Petitioner in a case enforcing this patent against unauthorized infringement. *See* Section II.A-F, *infra*. Furthermore, this is not a case in which Petitioner is presenting new, important, previously unknown art to the Office either. Petitioner relies on IEEE 802.16a-2003 for every limitation except a "mobile device." *See* Section II.G, *infra*. And notwithstanding Petitioner's flat-out misstatement of fact falsely assuring the Board that "the Examiner did not consider" the art on which the Petition is based, (Pet., 10), this reference, IEEE 802.16a-2003, appears on the face of the Patent as a prior art reference made of record and considered during original prosecution, disclosed and expressly "considered" in connection with an information disclosure signed by the Examiner. *See* Section II.G, *infra*.

The Petition contains a section purporting to address the question of whether a *General Plastic* discretionary denial should be made of this serial petition.

Therefore, having had a full opportunity to set forth a *General Plastic* analysis and acknowledging its significance, Petitioner should not be permitted any further opportunity to supply that analysis prior to the decision whether to institute trial. But inexplicably, and despite having used fewer than 13,000 of the 14,000 words permitted for its Petition, Petitioner elected not to present any analysis of *General Plastic*'s factors or any otherwise serious analysis. Pet., 67, 71; Section II.H, *infra*. Petitioner should be held to that deliberate choice.

If more were needed, the Petition also fails on the merits. For example, both grounds fail to disclose a "mobile device." With respect to Ground 1, Petitioner relies on Koo for the disclosure of a "mobile device," but Koo is not prior art. *See* Section III.B, *infra*. With respect to Ground 2, Petitioner relies on Kitroser for the disclosure of a "mobile device," but does not even allege any motivation to combine the references. *See* Section III.C.1, *infra*. Nor does Petitioner show any sufficient likelihood of showing a reasonable expectation of success in making the combination. *See* Section III.C.2, *infra*.

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

II. THIS SECOND PETITION BY DISTRICT-COURT CO-DEFENDANTS SHOULD BE DENIED UNDER 35 U.S.C. § 314(a).

This is the second Petition challenging the same claims of the '302 Patent, and there is no justification for its institution. The Petition should be denied under 35 U.S.C. § 314 (a).

Both Petitioner Honda and former petitioner Volkswagen were sued in district court in March 2022. Their cases were consolidated by a federal judicial panel under the federal rules because, *inter alia*, both parties are accused of infringement based on implementing the same standard(s) and are “expected to share factual questions concerning such matters as the technology underlying the patents, prior art, claim construction, and/or issues of infringement involving the patents.” Ex. 2015 [Transfer Order] 1-2. The district court has ordered Petitioner and its co-defendant to jointly present their invalidity contentions, and they have accordingly jointly presented their invalidity contentions in the district court. Ex. 2016 [Opinion and Order] 3; Ex. 2013 [Invalidity Contentions] 1-2. In fact, in their invalidity contentions served on November 16, 2022, both Petitioner Honda and former petitioner Volkswagen jointly identified Petitioner’s primary reference here, IEEE 802.16a-2003, as well as the secondary reference in Petitioner’s Ground 1 here, Koo. Ex. 2013 [Invalidity-Contentions] 29 (identifying IEEE 802.16a-2003), 12 (identifying Koo), 2 n.1 (identifying both Honda and

Volkswagen as Defendants that jointly submitted the contentions), 1027 (proof of service dated November 16, 2022).

Yet, on September 15, 2022, approximately six months after being served with a complaint, when Volkswagen filed a petition to challenge all claims of the '302 Patent, Petitioner Honda did not join that petition or join in filing its own petition. In fact, Petitioner Honda did not even file its own petition any time close to that time period. Instead, Petitioner Honda waited. And waited. It waited another *six months*, until the very last day of its one-year statutory bar on March 30, 2023. *See* Ex. 2009 [Honda-POS] (service of complaint on Petitioner on March 30, 2022). Why wait? So that Petitioner Honda could take maximum advantage of access to Patent Owner's Preliminary Response to the Volkswagen Petition, filed February 8, 2023. (As the Panel knows, after that Preliminary Response was filed, Volkswagen's Petition was denied for lack of merit.)

What is more, this is not a case where Petitioner Honda is even presenting new, significant art to the Office of which the Office was previously unaware. Rather, both of its grounds rely on IEEE 802.16a-2003 for every limitation except a "mobile device." *See* Section II.G, *infra*.¹ And, notwithstanding Petitioner's

¹ While the Petition's grounds state that they rely on both IEEE 802.16a-2001 and 802.16a-2003 (Pet., 2), and sometimes cite both documents, IEEE

misrepresentation that the Examiner “did not consider” IEEE 802.16a-2003 (Pet., 10), that reference—“IEEE 802.16a-2003,” with the same full title and date—appears on the face of the ’302 Patent as a reference expressly considered by the examiner during prosecution, as further expressly confirmed by the Information Disclosure Statement that the examiner signed and expressly annotated to state that he “considered” IEEE 802.16a-2003. *See* Section II.G, *infra*.

In exercising its discretion under 35 U.S.C. § 314(a), the Board analyzes factors set out in *General Plastic Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, 16–17 (PTAB Sept. 6, 2017) (precedential). These factors are “non-exhaustive” (*id.*, 16), and “are not intended to represent all situations where it

802.16a-2003 “amends IEEE 802.16a-2001.” Ex. 1004 [IEEE 802.16a-2003] 3. IEEE 802.16a-2003 further provides instructions on “how to merge the material contained herein into the existing base standard (IEEE Std 802.16a-2001) **to form the comprehensive standard.**” *Id.*, 27. Therefore, a POSITA would understand that the IEEE 802.16a-2003 amendment already incorporates within its disclosures the IEEE 802.16a-2001 standard. *See also* Ex. 1003 [Buehrer] ¶ 45. Therefore, for the purposes of discretionary denial discussions in this section, a reference to IEEE 802.16a-2003 includes its underlying IEEE 802.16a-2001 standard which it amends “to form a comprehensive standard.”

may be appropriate to deny a petition.” Consolidated Trial Practice Guide (Nov. 2019), 58. Furthermore, “not all the factors need to weigh against institution for [the Board] to exercise [its] discretion under § 314(a).” *Abiomed, Inc. v. Maquet Cardiovascular, LLC*, IPR2017–02150, Paper 11, 7 (Mar. 12, 2018).

As explained below, the *General Plastic* factors uniformly and strongly support denial of institution.

A. Factor 1: The Board Already Rejected On The Merits A First Petition By Petitioner’s District Court Co-Defendant, Volkswagen.

The first *General Plastic* factor considers “whether the same petitioner previously filed a petition directed to the same claims of the same patent.” CTPG, 57. The application of this factor “is not limited solely to instances when multiple petitions are filed by the same petitioner”; rather, the Board “consider[s] *any* relationship between” the petitioners. *Valve Corp. v. Elec. Scripting Prods., Inc.*, IPR2019-00062, Paper 11, 2, 9 (Apr. 2, 2019) (precedential).²

Valve denied a second petition against a patent by a second petitioner, where the two petitioners were “co-defendants” in the same patent infringement litigation relating to the same products, finding that “[t]hus, there is a significant relationship between [the filers of the two petitions] with respect to [the] [p]atent [o]wner’s assertion of the [challenged] patent.” *Id.*, 10.

² All emphasis herein is added unless stated otherwise.

Here, the Petitioner is a district court co-defendant with former petitioner Volkswagen, who filed the first petition against the same Patent, and whose petition was denied on the merits. Specifically, both Petitioner Honda and former petitioner Volkswagen are co-defendants in a formally consolidated, subject-matter-sharing multi-district litigation pending in the Eastern District of Michigan, case no. 2:22-MD-03034-TGB. Ex. 2015 [Transfer Order] 1; Ex. 2016 [Opinion and Order] 1. Furthermore, their cases have been consolidated in light of the close linkages between the cases' subject matter, including because both defendants are accused of infringement by implementing the LTE and/or 4G/5G standards:

All accused infringers in these seven actions are automaker groups who are alleged to implement cellular communications technology into their vehicles, such as remote lock and unlock, remote start and remote start scheduling, parked vehicle location, remote fuel level checks, automatic collision notification, roadside assistance, and Wi-Fi hotspot. Neo alleges that, because the patents all relate to fundamental aspects of LTE/4G and 5G/NR networks, the patents read directly onto LTE or 4G/5G technical standards. As a result, by complying with these standards, each defendant allegedly infringes the asserted patents. All actions thus can be expected to share factual questions concerning such matters as the technology underlying the patents, prior art, claim construction, and/or issues of infringement involving the patents.

Ex. 2015 [Transfer Order] 1-2. In other words, the two petitioners' accused products have substantially the same subject matter for purposes of the *General Plastic* and *Valve* precedential decisions. *See Valve, supra*, 10.

Further still, Defendants have been ordered to jointly present their invalidity contentions in the district court, and have done so, which makes it even more questionable as to why they should not do the same before the PTAB:

Accordingly, for the same legal reasons stated in its Order Granting In Part and Denying In Part Defendants' Motion to Reduce Number of Asserted Claims (ECF No. 99), ***the Court ORDERS Defendants to limit their total asserted prior art references and/or products to an average of eight (8) per patent***, for a total of not more than forty-eight (48) references and/or products, on or before December 16, 2022. Defendants can determine how the limit is distributed across the asserted claims.

Ex. 2016 [Opinion and Order] 3. There is no reason a petitioner with materially similar accused products to a co-defendant who has been ordered to present a joint case with its co-defendant against validity by the court should be free to harass Patent Owner with a deliberately ***disjoint*** challenge to the patent here.

Indeed, Petitioner and Volkswagen ***are*** jointly presenting their invalidity contentions in the district court, including specifically the same IEEE 802.16a-2003 reference that forms the primary basis of the Petition (as well as two earlier versions of the same standard):

6. The '302 Patent

Title	Date of publication	Author or Publisher
“Narrow-Band Interference Rejection in Orthogonal Multi-carrier Spread-Spectrum Communications,” Proc. of 1994 3rd IEEE International Conference on Universal Personal Communications, pp. 46-50	1994	Fazel
IEEE Part 11: Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications: High Speed Physical Layer in the 5 GHz band, IEEE Std 802.11a-1999	September 16, 1999	IEEE
IEEE Standard for Local and Metropolitan Area Networks - Part 16: Air Interface for Fixed Broadband Wireless Access Systems, IEEE 802.16a-2001	April 8, 2002	IEEE
IEEE Standard for Local and metropolitan area networks Part 16: Air Interface for Fixed Broadband Wireless Access Systems—Amendment 2: Medium Access Control Modification and Additional Physical Layer Specifications for 2-11 GHz, <u>IEEE 802.16a-2003</u>	April 1, 2003	IEEE

Ex. 2013 [Invalidity-Contentions] 29; *see also id.*, 2 n.1 (identifying both Honda and Volkswagen as Defendants that jointly submitted the contentions); 1027 (Proof of service dated November 16, 2022).

Thus, Petitioner here has even a stronger relationship with Volkswagen than what *Valve* found to be a sufficient relationship between petitions to deny institution of the second petition under *General Plastic*. *Valve, supra*.

Nor does Petitioner challenge any claims that were not previously challenged by its co-defendant’s prior petition. The *Volkswagen* Petition challenged all claims of the Patent. *Volkswagen Grp. Of Am., Inc. v. Neo Wireless LLC*, IPR2022-01538, Paper 2, 1 (Sept. 15, 2022). Therefore, the fact that

Petitioner chose to challenge only a *subset* (claims 23, 24, 26, and 27) of those claims already before the Board for evaluation, does not favor institution. *See Ericsson Inc. et al v. Uniloc 2017 LLC*, IPR2019-01550, Paper 8, 11 (Mar. 17, 2020) (“we do not determine that challenging a subset of previously challenged claims is availing to Petitioner.”).

Finally, Petitioner does not even argue that it does not have a substantial relationship with former petitioner Volkswagen, on any basis. Pet., 67.

For all of the foregoing reasons, the first *General Plastic* factor strongly weighs against institution.

B. Factor 2: The Asserted Art Should Have Been Known At The Time Of Co-Defendant Volkswagen’s Prior Petition.

The second *General Plastic* factor considers “whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it.” CTPG, 57. This factor strongly weighs against institution because at the time Volkswagen filed the second petition challenging the Patent, Petitioner knew or should have known of the references it is now asserting in its Petition.

Both of Petitioner’s grounds rely on IEEE 802.16a-2003 for all limitations except “mobile device.” *See generally* Petition. IEEE 802.16a-2003 is cited on the face of the ’302 Patent as a reference considered by the Examiner and,

therefore, Petitioner either was or should have been aware of it at the time of the VW Petition—and in fact much earlier:

OTHER PUBLICATIONS

European Telecommunications Standards Institute, Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television, ETSI EN 300 744 V1.5.1 (Jun. 2004).

IEEE Standard for Local and metropolitan area networks; Part 16: Air Interface for Fixed Broadband Wireless Access Systems—Amendment 2: Medium Access Control Modifications and Additional Physical Layer Specifications for 2-11 GHz, IEEE Std. 802.16a-2003 (Apr. 1, 2003).

Ex. 1001 [’302 Patent] 2. Not surprisingly, given that it is one of the select references listed on the front of the Patent itself, Petitioner and Volkswagen were well aware of 802.11a-2003, and they jointly cited IEEE 802.16a-2003 in their invalidity contentions served on November 16, 2022, around the same time as the filing of the Volkswagen Petition. Ex. 2013 [Invalidity-Contentions] 29; *see also id.*, 1027 (proof of service dated November 16, 2022).

Nor does Petitioner make any showing that Petitioner could not have found, with reasonable diligence, its secondary references—upon which it only relies for the disclosure of a “mobile device.” *Apple Inc. v. Zomm, LLC*, IPR2019-01030, Paper 8, 11 (Nov. 14, 2019) (“We agree with Patent Owner that, as Tran is a U.S. Patent and it uses the same terms used in the ’895 patent, in the absence of any

explanation as to why a reasonably diligent search would not (or did not) uncover the reference, the second *General Plastic* factor weighs towards exercising our discretion to deny institution.”); *Valve* (precedential), 11 (“Although Valve may not have known of the Maeda and Anderson references at the time HTC filed its petition in the 1031 IPR, the timing of Valve’s petitions suggests that it could have found the Maeda and Anderson references through the exercise of reasonable diligence around the time of HTC’s petition.”).

For example, Petitioner and Volkswagen jointly cited the Koo reference, the secondary reference in Petitioner’s first ground, in their invalidity contentions served on November 16, 2022, around the same time as Petitioner Volkswagen’s petition:

Petitioner’s Koo Reference (See Ex. 1006 [Koo] 1).



2004/0114566 A1	US	June 17, 2004
2004/0136464 A1	US	July 15, 2004
2004/0174845 A1	US	September 9, 2004
2005/0002323 A1	US	January 6, 2005
2005/0058058 A1	US	March 17, 2005

Ex. 2013 [Invalidity Contentions] 12.

Therefore, Petitioner either knew or should have known of its asserted art at the time of the Volkswagen petition, and the second factor strongly weighs against institution.

C. Factor 3: Petitioner Had Access To Patent Owner’s Response To Volkswagen’s Prior Petition Prior To Filing Its Later Petition.

The third factor considers “whether at the time of filing of the second petition the petitioner already received the patent owner’s preliminary response to the first petition or received the Board’s decision on whether to institute review in the first petition.” CTPG, 57. This black-and-white factor also strongly weighs against institution.

At the time Honda filed its Petition on March 30, 2023, Honda had received Patent Owner’s Preliminary Response to the *Volkswagen Petition*. Specifically, in the Volkswagen IPR, the Petition was filed on September 15, 2022, and the Patent Owner Preliminary Response was filed on February 8, 2023. Both dates are substantially prior to the filing date of the Petition in this matter, on March 30, 2023. In fact, the evidence suggests that Petitioner deliberately waited until the *very last day* of its statutory bar grace period to file its Petition on March 30, 2023, thereby ensuring that Honda had received Patent Owner’s Preliminary Response, and maximizing its road-mapping opportunity, before filing its serial Petition. *See* Ex. 2009 [Honda-POS] (service of complaint on Petitioner on March 30, 2022).

Therefore, the third factor strongly weighs against institution.

D. Factor 4: Substantial Time Elapsed Between The Prior Petition And Petitioner’s Knowing Of The Prior Art, And This Petition.

The fourth *General Plastic* factor considers “the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition.” CTPG, 57. This factor indisputably and strongly weighs against institution.

The IEEE 802.16a-2003 reference, the reference that forms of the basis of both grounds in the Petition for every limitation except the “mobile device,” appears on the face of the ’302 Patent. Ex. 1001 [’302 Patent] 2. Also indisputably, Petitioner was aware of the Koo reference in its Ground 1 as early as November 16, 2022, when it served its invalidity contentions jointly with Volkswagen. Ex. 2013 [Invalidity-Contentions] 12; *see also id.*, 1027 (proof of service dated November 16, 2022).

Yet, Petitioner did not file its Petition anytime around the filing of the Volkswagen Petition in September 2022, or around the time it served its invalidity conventions identifying IEEE 802.16a-2003 and Koo on November 16, 2022. Instead, it waited all the way until ***the last day of its statutory bar on March 30, 2023*** to maximize its road-mapping opportunities, and maximizing Patent Owner’s cost and harassment as well. Ex. 2009 [Honda-POS] (service of complaint on Petitioner on March 30, 2022).

Therefore, this factor also weighs against institution.

E. Factor 5: Petitioner Fails To Offer Adequate Explanation For The Delay Between The Filing Of Volkswagen’s Petition And Its Own.

The fifth *General Plastic* factor assesses “whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent.” CTPG, 57. This factor also strongly weighs against institution here. Petitioner does not even attempt to provide an explanation for that time gap—adequate or otherwise.

The IPR petition filed by Honda’s co-defendant, Volkswagen, was filed on September 15, 2022. That was already approximately six months after the service of the complaint on Volkswagen and Petitioner in late March 2022. Exhibits 2009-2012 (proofs of service). But even those months of delay were still not enough for Petitioner. Petitioner waited an additional six months, *until the last day* of its one year statutory bar grace period, to file its Petition on March 30, 2023. *See* Ex. 2009 [Honda-POS] (service of complaint on Petitioner on March 30, 2022). There is simply no reason why Petitioner could not have filed a petition together with Volkswagen, or even filed a separate Petition in November 2022 at the time it served its invalidity contentions identifying IEEE 802.16a-2003 and Koo. Nor does Petitioner present *any* explanation of the time lapse between the two petitions, just as it does not have an adequate explanation as to why there should be two petitions against the same patent. *Valve* (precedential), 14 (even though change in

law might have prompted the second petition, that still “does not excuse the five-month delay between the filing of HTC’s petition and Valve’s Petition.”).

The fifth General Plastic factor also strongly weighs against institution.

F. Factors 6-7: Fairness, Timing And Efficiency Weigh Against Institution.

“The sixth and seventh factors are efficiency considerations,” and consider “the finite resources of the Board.” *Valve* (precedential), 15. “In general, having multiple petitions challenging the same patent” is inefficient and tends to waste resources. *Id.* Therefore, this factor weights against institution. This Petition is especially a waste of Board resources since, as explained in the subsection immediately below, the primary reference that forms the basis of both grounds, 802.16a-2003, appears on the face of the ’302 Patent and has been previously considered by the Office.

G. The Additional Factor That The Office Already Considered Petitioner’s Primary Reference 802.16a-2003, Contrary To Petitioner’s Assertion Otherwise, Also Weighs Against Institution.

The *General Plastic* factors are “non-exhaustive.” *General Plastic*, IPR2016-01357, Paper 19, 16. Petitioner relies on IEEE 802.16a-2003 as the primary reference in both of its proposed grounds, relying on it for every limitation except “mobile device.” *See* Pet., 22, 59. Petitioner tells the Board, contrary to fact, that that “the Examiner did not consider” IEEE 802.16a-2003. Pet., 10; *see also id.*, 68 (reiterating that “the same or substantially the same art or arguments

were not previously presented to the Office”). Yet, these unambiguous assertions of fact by the Petition, which go to the heart of whether discretionary denial of this Petition is appropriate, are false. IEEE 802.16a-2003 expressly appears on the face of the ’302 Patent as one of the “References Cited” during prosecution:

OTHER PUBLICATIONS

European Telecommunications Standards Institute, Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television, ETSI EN 300 744 V1.5.1 (Jun. 2004).

IEEE Standard for Local and metropolitan area networks; Part 16: Air Interface for Fixed Broadband Wireless Access Systems—Amendment 2: Medium Access Control Modifications and Additional Physical Layer Specifications for 2-11 GHz, IEEE Std. 802.16a-2003 (Apr. 1, 2003).

Ex. 1001 [’302 Patent] 2. Patent Owner provided the Examiner with a copy of the reference with that IDS. And furthermore, the examiner *considered* this reference, as evidenced by his signature on the Information Disclosure Statement identifying it as a document he “considered”:

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	15953950		
Filing Date	2018-04-16		
First Named Inventor	Li et al.		
Art Unit	2461		
Examiner Name	Dmitry Levitan		
Attorney Docket Number	NEO-PT012.6		

2	445949	CN	A	2003-10-01	UNIV ELECTRONIC SCIENCE AND TECH	
3	2003056881	WO	A2	2003-07-17	NEC SEMICONDUCTORS NV	* Corresponds to WO 2003056887

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	TS
1		EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television, ETSI EN 300 744 V1.5.1 (June 2004).	
2		IEEE Standard for Local and metropolitan area networks; Part 16: Air Interface for Fixed Broadband Wireless Access Systems — Amendment 2: Medium Access Control Modifications and Additional Physical Layer Specifications for 2-11 GHz, IEEE Std. 802.16a-2003 (April 1, 2003).	

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/DMITRY LEVITAN/	Date Considered	07/02/2020
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

* See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. † Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ‡ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. § Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ¶ Applicant is to place a check mark here if English language translation is attached.

EPF Web 2.1.18

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.L/

Ex. 1002 [Prosecution-History] 321.

Therefore, IEEE 802.16a-2003 has already been considered by the Office.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6, 7-8 (PTAB Feb. 13, 2020) (precedential) (“Previously presented art includes art made of record by the Examiner, and art provided to the Office by an applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent,” which includes the entire “examination of the underlying patent application.”); *Universal Imaging Indus. v. Lexmark Int’l*, IPR2019-01387, Paper 7, 15-16 (Feb. 27, 2020) (denying institution under § 325(d) where it was “reasonable to assume that the Examiner considered

the substance of [art] when examining the...patent, despite the lack of an express claim rejection”).

Therefore, the fact that Petitioner’s primary reference, upon which Petitioner relies for every limitation except a “mobile device,” has already been considered by the Office and appears on the face of the Patent is an additional factor that weighs against institution.

H. Petitioner’s Assertion Of No Roadmapping Is Both Factually Incorrect And, In The Circumstances Here, Legally Irrelevant.

Despite dedicating a section to discussing the *General Plastic* discretionary denial, Petitioner chose not to address any of its factors. Pet, 67. Instead, Petitioner argues that because it supposedly did not “roadmap” this Petition based on the Volkswagen IPR, the “serial petitioning concerns” addressed in *General Plastic* and *Valve* “are not at play here.” Pet., 67. Petitioner’s allegation is both factually and legally incorrect: it did roadmap its Petition, and, even if it had not, *General Plastic* factors still require denial of institution in the circumstances here.

First, Petitioner cites no authority for the legal proposition that without roadmapping, the “serial petitioning concerns” of *General Plastic* and *Valve* “are not at play.” Pet., 67. That is because this is not the law. Instead, the Director of USPTO has explained that “roadmapping” should be shown only where, unlike here, the first Petition “was not evaluated on the merits”:

As the Board recently held, “allowing [a petitioner] the opportunity to pursue a decision on the merits” in a second-filed petition, ***when the first-filed petition was not evaluated on the merits***, “best balances the desires to improve patent quality and patent-system efficiency against the potential for abuse of the review process by repeated attacks on patents.” *Intel Corp. v. VLSI Tech. LLC*, IPR2022-00366, Paper 14 (June 8, 2022), 9–10.

...

General Plastic factor 1 must be read in conjunction with factors 2 and 3. **Where the first-filed petition under factor 1 was discretionarily denied or otherwise was not evaluated on the merits, factors 1–3 only weigh in favor of discretionary denial when there are “road-mapping” concerns under factor 3 or other concerns under factor 2.**

Code200, UAB v. Bright Data Ltd., IPR2022-00861, Paper 18, 4-5 (Aug. 23, 2022) (precedential).

Here, the Volkswagen Petition was denied on the merits for failure to show the limitation “receiving a request for a probing signal from a base station in the system.” *Volkswagen Grp. Of Am., Inc. v. Neo Wireless LLC*, IPR2022-01538, Paper 7, 1, 25, 31-32 (May 5, 2023). Therefore, since Petitioner, through its district court co-defendant, has had sufficient “opportunity to pursue a decision on the merits,” denial of institution in this case “best balances the desires to improve patent quality and patent-system efficiency against the potential for abuse of the

review process by repeated attacks on patents.” *Code200*, IPR2022-00861, Paper 18, 4-5.

Nor is “road-mapping” the only concern implicated in serial petitioning. Even in case of parallel petitioning, where two petitions are filed at the same time and thus road-mapping is impossible, the Consolidated Trial Practice Guide recognizes that two petitions challenging the same patent are not necessary “in the vast majority of cases” and “should be rare.” CTPG, 59. Both *General Plastic* and the Congress explain some of the reasons why. For example, on April 9, 2019, shortly before the Office designated *Valve* as precedential, Senators Tillis and Coons of the Senate Judiciary Committee, in a letter to then USPTO Director, recognized that serial petitions “rob the process of its efficiency and consume resource that inventive companies could otherwise devote to research and development”:

As you evaluate and make improvements to the IPR process, we urge you to prioritize solutions to the problem of abusive serial petitions—multiple follow-on petitions attacking the same patent claims and asserting new or modified arguments—***either by the same petitioner or different petitioners***. These petitions impose an undue burden on patent owners and harm innovation.

The IPR process was envisioned as a second window to evaluate patents and an inexpensive alternative to district court litigation. ***Abusive serial petitions were not part of that vision.*** They rob the process of its

efficiency and consume resources that inventive companies could otherwise devote to research and development.

Exhibit 2014 [Tillis-Coons], 1. Similarly, *General Plastic* cited the Congressional record explaining a similar concern with burden on patent owners:

While this amendment is intended to remove current disincentives to current administrative processes, the changes made by it are not to be used as tools for harassment or a means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent. Doing so would frustrate the purpose of the section as providing quick and cost effective alternatives to litigation.

General Plastic (precedential), 16-17 (quoting H.R. Rep. No. 112-98, pt. 1, at 48 (2011)). Thus, the notion that roadmapping is the only concern “at play” in serial petitioning is demonstrably contrary to the law and the Congressional intent.

But even Petitioner’s underlying allegation that it did not roadmap based on the Volkswagen IPR is at best suspect. First, Petitioner deliberately waited until the very last day of its one year statutory bar to file its Petition. *See* Ex. 2009 [Honda-POS] (proof of service of complaint on Petitioner on March 30, 2022). There is no explanation for this delay—other than the obvious one: intentionally waiting to receive Patent Owner’s Preliminary Response in the Volkswagen IPR, filed on February 8, 2023, with the opportunity thereby to use that hindsight to devise Petitioner’s arguments accordingly as desired.

Furthermore, the record suggests that Petitioner did in fact utilize Patent Owner's Preliminary Response in the Volkswagen IPR to draft its Petition. Specifically, as noted above, the Patent Owner Preliminary Response argued that the Volkswagen Petition failed to show the limitation "receiving a request for a probing signal from a base station in the system." IPR2022-01538, Paper 7, 1, 25, 31-32. Honda, in the instant Petition, has devoted *~1000 words and three figures across eight pages* just to address the limitation "a request." Pet., 29-36. That is by far more words and pages than the Petition has devoted to other, substantially longer, limitations. It is highly unlikely, to the point of not credible, that it was by sheer coincidence that Petitioner decided to devote a highly disproportionate length of its Petition to discussing the limitation that Patent Owner argued was missing from the Volkswagen Petition, and that the Board ultimately credited in denying that Petition.

For all of these reasons, institution of the Petition should be denied under § 314(a).

However, even if the Board were inclined to reach the merits of the Petition, it should still be denied because none of its grounds reach the threshold necessary for institution, for example as discussed in Section III, *infra*.

III. PETITIONER FAILS TO SHOW A “MOBILE DEVICE” AS CLAIMED (ALL GROUNDS, ALL CLAIMS).

A. The Claims Recite A “Mobile Device.”

The “mobile device” in Claim 23’s preamble is undisputedly limiting. Both Patent Owner and Petitioner Honda agree in the co-pending district court that the preamble of claim 23 is limiting. Ex. 2004 [Agreed-Lit.-Terms] 4. Petitioner, which has the burden under the rules to inform the Board how the claims should be construed, never argues that the preamble is not limiting. *See* Pet., 26, 61. And even if it were in dispute, this language in the claims’ preamble must be found to be limiting, for the reasons explained below.

“[T]he preamble is regarded as limiting if it recites essential structure that is important to the invention or necessary to give meaning to the claim.” *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006). The preamble to Claim 23 defines the structure of the claim by reciting “[a] **mobile device** in an Orthogonal Frequency Division Multiplexing (OFDM) communication system.” The claim then recites “a receiver” and a “transmitter” that are contained within the claimed mobile device and have the recited configurations. The body of claim 23 also refers back to the preamble’s “mobile device” when it refers to “**other mobile devices** in the system.” Ex. 1001 [’302 Patent] 12:38. Additionally, each of the dependent claims 24-29 refer back to the mobile device of claim 23. *See, e.g.*, Ex.

1001 ['302 Patent] cl. 25 (“The mobile device of claim 24, wherein the mobile device is configured to receive”).

Therefore, even if Petitioner had not already so stipulated, claim 23 preamble’s “mobile device” is limiting.

B. Ground 1 Fails To Show A “Mobile Device” Because Koo Is Not Prior Art.

Petitioner’s Ground 1 relies on a combination of IEEE 802.16a-2003 and Koo. Pet., 2. Petitioner does not dispute that Koo was filed on March 5, 2004 and published on September 9, 2004, both of which are after the earliest claimed priority date of the ’302 Patent. Pet., 2-6. Petitioner, however, argues that the claims “are not entitled to the earliest priority date” claimed in the ’302 Patent, and instead, the priority date of the claims is January 27, 2005. Pet, 2, 5. On that basis, Petitioner relies on Koo for its Ground 1. As will be discussed below, however, the claims are entitled to a priority date of at least January 30, 2004. Therefore, Ground 1 fails because Koo is not prior art.

Under 35 U.S.C. § 120, a patent claim is entitled to the benefit of the filing date of a prior-filed application if the original disclosure of the prior-filed application provides written description support for the patent claim as required by 35 U.S.C. § 112, first paragraph. *In re NTP, Inc.*, 654 F.3d 1268, 1276–77 (Fed. Cir. 2011). “[T]he test for sufficiency is whether the specification reasonably conveys to those skilled in the art that the inventor had possession of the claimed

subject matter as of the filing date.” *In re Glob. IP Holdings LLC*, 927 F.3d 1373, 1377 (Fed. Cir. 2019) (internal quotes omitted) (quoting *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010)). “In addition, the parent application need not state the exact same language, or limitation, that is recited and claimed in the later filed application.” *Propel Orthodontics LLC v. Orthoaccel Technologies, Inc.*, IPR2018-00296, Paper 36, 13 (Jun. 10, 2019) (citing *Union Oil Co. of California v. Atl. Richfield Co.*, 208 F.3d 989, 997 (Fed. Cir. 2000)); see also *Purdue Pharma L.P. v. Faulding, Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) (“[T]o satisfy the written description requirement, the disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject matter at issue.”).

Here, through a series of continuations, the ’302 Patent claims priority to U.S. Provisional Patent Application No. 60/540,586, filed on January 30, 2004 (Exhibit 1011), and U.S. Provisional Patent Application No. 60/540,032, filed on January 29, 2004 (Exhibit 1010). The thrust of Petitioner’s argument is that neither of those applications support the limitation “a code sequence modulated in the frequency domain” because, supposedly, none of those applications disclose that the DSSS signal of the exemplary embodiment of the invention are modulated in the frequency domain. Pet., 2-3. Specifically, Petitioner argues that:

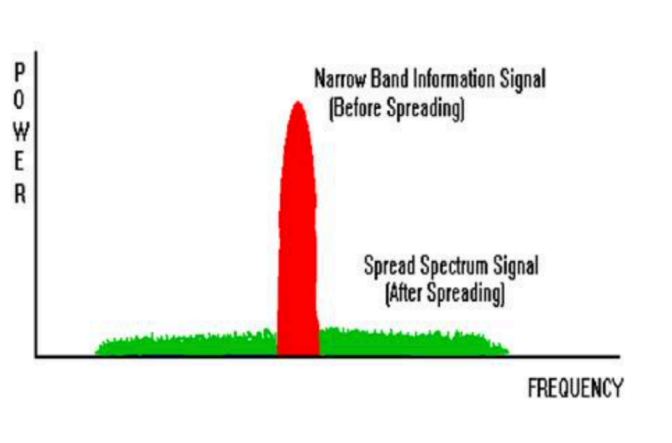
The '302 Second Provisional discloses systems implementing Multi-Carrier (MC) and DSSS (also referred to as "SS") and in particular "a scheme that coordinates MC and SS signaling in one system." HONDA-1011, p. 1 (§ 2). However, the '302 Second Provisional merely discloses that "the MC signal is modulated on subcarriers in the frequency domain while the SS signal is modulated in the time domain." HONDA-1011, pp.2, 5. Thus, the '302 Second Provisional lacks the phrase "or the frequency domain" which appears in the '302 Patent specification.

Pet., 3.

Thus, there is no dispute that the second provisional application (Ex. 1011) disclosed that the "probing signal" can be, though it is not restricted to, a "DSSS signal," just as the '302 Patent recites. *See* Ex. 1011, §§ 2, 4.5; Pet., 3. The only question is whether the disclosed "DSSS signal" is disclosed to be modulated in the frequency domain. As will be explained below, DSSS inherently discloses modulation in the frequency domain, as also confirmed both by Petitioner's expert's own scholarship publications, and by how Petitioner itself has mapped IEEE 802.16a-2003 to the limitation. Therefore, the '302 Patent is at least entitled to the priority date of January 30, 2004 based on the '586 Provisional.

As Mr. Alberth explains³:

CDMA (Code Division Multiple Access) is a method of allowing multiple users to access the bandwidth, and is based on spreading technology. Each user is assigned a code (sometimes generated based on a pseudo-random number). The user “spreads” the information signal based on its assigned code to cover a wider frequency bandwidth but with a lower power density. This is shown schematically below, where the red signal is the information signal before spreading, and the green signal is the information signal after spreading:



³ Mr. Alberth has over 25 years of experience in design, development, implementation, and manufacturing of mobile phones, including serving as Motorola’s Chief Technology Officer for Motorola Mobile Devices, where he led the development of differentiating technology that was integrated into Motorola’s commercial mobile telephone products. Ex. 2001 [Alberth-Decl.] ¶ 6. He is also a named inventor on over 100 patents. *Id.*, ¶ 9; *see also* Ex. 2002 [Alberth-CV].

The receiver of the spread signal is also in possession of the CDMA code that was assigned to the user, and can extract the intended data by applying the reverse of the spreading process. Because each user's spreading code is unique, all users can send their spread signals in the same channel.

I understand that a book published by Dr. Buehrer also similarly defines spread spectrum, although the spreading code does not necessarily have to be generated based on a pseudo-random signal. *See* Ex. 2017 [Buehrer-Book] 23 (“Spread spectrum can be defined as any modulation technique that uses a bandwidth that is well beyond what is necessary for the data rate being transmitted and *uses a* pseudo-random signal to obtain the increased bandwidth.”).

Ex. 2001 [Alberth-Dec1.] ¶¶ 33-35.

As Mr. Alberth further explains, DSSS inherently discloses modulation in the frequency domain:

As Dr. Buehrer's book also notes, DSSS is a common spreading method where the spreading of the data signal over the bandwidth is achieved by directly multiplying the data signal with a spreading sequence. Thus, as is clear, DSSS inherently discloses modulation in the frequency domain as it spreads a data signal in the frequency domain across the available frequency bandwidth by multiplying it with a spreading sequence. *See* Ex. 2017 [Buehrer-Book] 35 (“In DS/SS, the bandwidth is increased by directly multiplying the data signal by a higher-rate pseudo-random spreading sequence.”); 24 (“DS/SS accomplishes bandwidth spreading through the use of a high rate

symbol sequence (termed a *chip sequence*) that directly multiplies the information symbol stream.”).

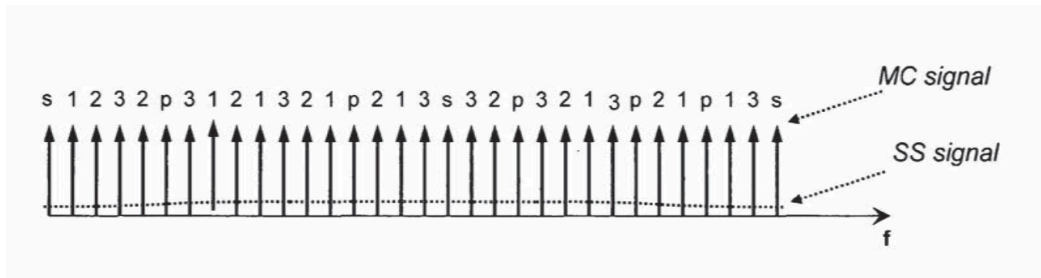
Ex. 2001 [Alberth-Decl.] ¶ 36.

In fact, it is readily confirmed that DSSS inherently discloses modulation in the frequency domain because Petitioner argues that IEEE 802.16a-2003 discloses this limitation merely because it discloses conventional spreading methodology.

As Mr. Alberth explains:

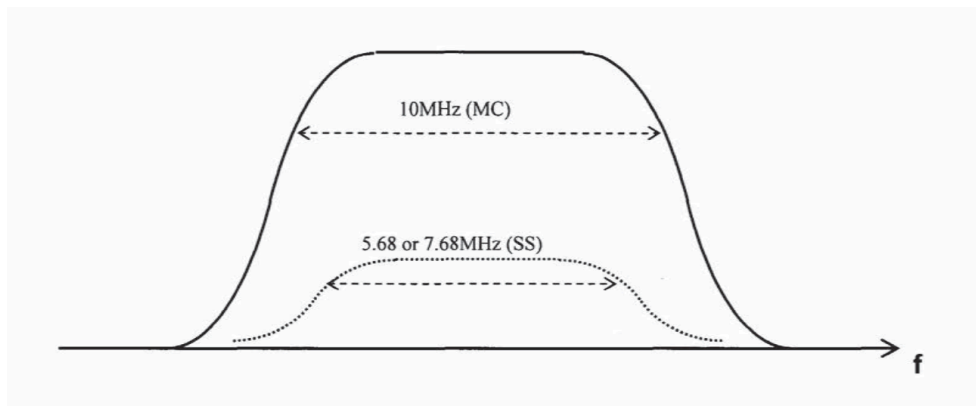
Dr. Buehrer relies on the conventional spreading technology in IEEE 802.16a-2003 to argue that it discloses a code sequence “modulated in the frequency domain.” Specifically, the IEEE 802.16a-2003 explains that each subchannel is 53 subcarriers. Ex. 1004 [802.16a-2003] 198 (§ 8.5.6.2, Table 116cb). “[I]f the BS [Base Station] has defined the ranging channel to be the default two subchannels,” (Ex. 1004 [IEEE 802.16a-2003] 203), then the spreading code would be 106 bits of the pseudo-random code so that the data signal can be spread across the 106 subcarriers of the two ranging subchannels. *Id.*

This is similar to the spreading techniques described in the ’586 Provisional. For example, the ’586 Provisional’s figure 6, reproduced below, shows the DSSS signal spread across the entire available frequency spectrum at lower powers:



Ex. 1011 ['586-Provisional] Fig. 6.

As another example, the '584 Provisional explains that the modulation of the DSSS signal is modified such that it only occupies the “center portion” of the available frequency spectrum. Ex. 1011 ['586-Provisional] 12-13 (§ 4.3.3); Ex. 1001 ['302 Patent] 8:2-7. This is also schematically shown in the Patent's (and the '586 Provisional's) Fig. 16:



Ex. 2001 [Alberth-Decl.] ¶¶ 37-39.

For the reasons explained above, the DSSS in the exemplary embodiment of the '586 Provisional inherently discloses modulation in the frequency domain. Therefore, Claim 23 is at least entitled to a priority date of January 30, 2004 based

on the '586 Provisional Application. As a result, Petitioner's Koo reference, with a filing date of March 5, 2004, is not prior art, and the first ground fails.

C. Ground 2 Fails Because Petitioner Fails To Show Either A Motivation Or A Reasonable Expectation Of Success To Implement IEEE 802.16a With Mobile Users In View Of Kitroser.

Petitioner's Ground 2 relies on a combination of IEEE 802.16a-2003 and Kitroser. Pet., 2. It was Petitioner's burden to show that "one of ordinary skill would have had a motivation to combine the references with a reasonable expectation of success." *Honeywell Int'l Inc. v. Mexichem Amanco Holding S.A. De C.V.*, 865 F.3d 1348, 1355 (Fed. Cir. 2017). Petitioner fails to show either a motivation or a reasonable expectation of success.

With respect to motivation, Petitioner does not even allege, let alone prove, why a POSITA would have combined IEEE 802.16a-2003 with Kitroser to support mobile users. *See* Section III.C.1, *infra*. This failure is especially glaring since even the Call for Contribution by the IEEE 802.16 committee itself recognized the need to assess the desirability of modifying IEEE 802.16 to support mobile users. Ex. 2007 [Kiernan] 2.

Nor does Petitioner show a reasonable expectation of success. *See* Section III.C.2, *infra*. It took the IEEE 802.16 committee of experts years to amend the standard to support mobile users, which was ultimately approved as IEEE 802.16(e) on December 7, 2005, close to two years after the priority date of the

Patent. Yet, Petitioner relies on a single, unsupported, hearsay statement in a submission to the IEEE 802.16 committee, out of dozens of such submissions with contradictory information, to argue that a POSITA could apply the ranging process of IEEE 802.16(e) to mobile users with a reasonable expectation of success. This cherry-picked, unsupported and inadmissible statement, in light of the substantial contradictory and uncertain other evidence and submissions, “fail[s] to demonstrate enough certainty [...] to give a skilled artisan a reasonable expectation of success” to implement IEEE 802.16(e) with mobile users. *Eli Lilly & Co. v. Teva Pharms. Int’l GmbH*, 8 F.4th 1331, 1349 (Fed. Cir. 2021).

This failure to either show a motivation or to show sufficient certainty to prove a reasonable expectation of success in the Petition is detrimental to Petitioner’s case. “[T]he expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute. While the Board's requirements are strict ones, they are requirements of which petitioners are aware when they seek to institute an IPR.” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016).

These points are discussed in more detail below.

1. *Petitioner Fails To Even Allege, Let Alone Prove, A Motivation To Modify The IEEE 802.16a-2003 Standard To Support Mobility In View Of Kitroser.*

Petitioner’s Ground 2 relies on a combination of the IEEE 802.16a-2003 standard with Kitroser, where IEEE 802.16a-2003 is utilized in a mobile device based on alleged teachings of Kitroser. Pet., 59-61; *see also id.*, 61 (“To the extent the preamble is deemed limiting, the combination of 802.16a and Kitroser renders it obvious.”). Yet, Petitioner does not devote *even a single conclusory sentence* to why a POSITA would have combined the IEEE 802.16a-2003 standard with Kitroser to use it on a mobile device.

“[O]bviousness concerns whether a skilled artisan not only *could* have made but would have been *motivated* to make the combinations or modifications of prior art to arrive at the claimed invention.” *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015); *Hulu LLC v. Sound View Innovations LLC*, IPR2018-00582, Paper 34, 21-22 (PTAB Aug. 5, 2019) (“Petitioner’s reliance on a generic desire for ‘improved access times’ in the Reply strikes as merely a bald statement about what could have been achieved at the time of the invention.”); *Arctic Cat Inc. v. Polaris Indus.*, 795 Fed. Appx. 827, 833 (Fed. Cir., 2019) (“The Board must weigh the benefits and drawbacks of the modification against each other, to determine whether there would be a motivation to combine.”).

Thus, Petitioner fails to allege a *prima facie* case of obviousness.

If more were necessary, Mr. Alberth explains that a motivation to add mobility to IEEE 802.16 was not self-evident, at least in part because the 802.16 standard was specifically designed in integral reliance on aspects of stationary systems that would not necessarily hold true in mobile systems:

Even if mobility could be added to the IEEE 802.16 standard by many experts in the field after years of analysis, it was not at all clear at the outset whether it was desirable to do so to begin with. First, the high frequencies used by the IEEE 802.16 standard that at least initially forced stationary systems were integral to the operation of the standard. IEEE 802.16 was designed as a stationary system that would operate as the last mile connection between a building and the larger metropolitan network, in lieu of using cable networks. Ex. 2006 [Eklund] 98 (“As currently defined through IEEE Standard 802.16, a wireless MAN provides network access to buildings through exterior antennas communicating with central radio base stations (BSs).”). Once the building was connected to the larger metropolitan network through 802.16, the individual users inside the building could access the network through other standards such as WLAN 802.11, *i.e.*, the typical Wi-Fi network. *Id.* (“In this scenario, with WirelessMAN technology bringing the network to a building, users inside the building will connect to it with conventional in-building networks such as, for data, Ethernet (IEEE Standard 802.3) or wireless LANs (IEEE Standard 802.11).”).

The feasibility of IEEE 802.16 to operate as the last mile connection between a building and the larger metropolitan network in lieu of using

cable networks was possible in part because the frequency range of 802.16 was very high frequencies of 10-66 GHz (later expanded to include 2-11 GHz as well). This allowed the system to use unlicensed frequency bands, and also allowed for the very high data rates that were necessary for its intended function of connecting a business or a building to the metropolitan network. However, the high frequencies would also mean that the signal could not tolerate much, if any, non-line-of-sight propagation. In other words, at least initially, there had to be a direct line of sight between the base station and the receiving station. A mobile user that could move anywhere would present a challenge.

Additionally, directional receive antennas could be of substantial use in fixed broadband networks that use very high frequencies. While directional antennas could be installed in stationary systems, they were challenging in mobile stations, especially around the time of the Patent's invention. These reasons are why at least in its early stages, antennas operating based on the IEEE 802.16 standard were stationary and installed on building rooftops in order to receive a direct signal with minimal multipath propagation. Ex. 2006 [Eklund] 98 ("As currently defined through IEEE Standard 802.16, a wireless MAN provides network access to buildings through exterior antennas communicating with central radio base stations (BSs).").

The desirability of adding mobility to IEEE 802.16 was also not self-evident additionally because of the existence of other standards such as the cellular system (2G, 3G) that already allowed mobile users. This was recognized even in the initial Call for Contributions issued by the

802.16 working group to explore the feasibility and desirability of adding mobility to the standard:

In addition to the technical issues, there are some other aspects of this effort that we need to keep in mind as we progress towards a possible PAR. *The one that comes most readily to mind is: What significant advantages or disadvantages does a mobile enhanced 802.16a air interface provide over current or planned 3G mobile networks?* Related to this is the question of liaison with other Standards Development Organizations such as T1P1, 3GPP and 3GPP2.

Ex. 2007 [Kiernan] 2.

Ex. 2001 [Alberth-Decl.] ¶¶ 41-44.

For all of the foregoing reasons, Petitioner has failed to show, or even allege, any motivation to combine IEEE 802.16a-2003 with Kitroser. The Petition therefore fails.

2. *Petitioner Fails To Show A Reasonable Expectation Of Success To Implement The IEEE 802.16a-2003 Standard To Support Mobility In View Of Kitroser.*

Petitioner additionally fails to show a reasonable expectation of success in implementing IEEE 802.16(e), or its ranging process, in a mobile device, either in view of Kitroser or otherwise. As explained in section III.C.2.a, *infra*, when all of the evidence is considered in its entirety, Petitioner has failed to show “sufficient

certainty” to give a POSITA a reasonable expectation of success. As explained in section III.C.2.b, *infra*, Petitioner’s reliance on the truth of Kitroser’s statement that no changes were necessary to the PHY layer for ranging in IEEE 802.16a-2003 also constitutes inadmissible hearsay.

a. Kitroser Fails To Show “Sufficient Certainty” To Prove A Reasonable Expectation Of Success.

As explained by Mr. Alberth, from the outset of the IEEE 802.16(e) project, the feasibility of adding mobility to the standard was subject of years of research and evaluation, including with respect to ranging:

In August 2002, the IEEE 802.16 working group issued a Call for Contributions to determine both the feasibility and desirability of adding mobility to the IEEE 802.16 standard. Ex. 2007 [Kiernan] 1. The working group had to “address enhancements to the IEEE 802.16a PHY/MAC to support mobile operation, including cell-to-cell and sector-to-sector handoff capability as well as other protocol and MIB support.” Ex. 2007 [Kiernan] 1. The first task of the working group was to determine if adding mobility to IEEE 802.16 was even feasible:

The initial output of the Study Group is expected to be a series of studies and analyses that would indicate *whether such a capability can be provided* within the basic confines of the 802.16a PHY/MAC, what level of mobility (pedestrian, vehicular) could be supported, and the extent of the PHY/MAC changes required to support it. It is NOT the current intent of the Study Group to develop a PAR.

However, *if the technical studies indicate that 802.16a enhancement for mobile operation is feasible*, development of a PAR can be expected at some future date.

Ex. 2007 [Kiernan] 1. Note that PAR is a Project Authorization Request.

The Call for Contributions then lists more than *a dozen* bullet points of “technical issues” that needed to be addressed to add mobility to IEEE 802.16, including specifically on “ranging”:

- Reference System Deployment Scenario
 - Multi-cell, macro and/or micro
 - Omnidirectional or sectorized antennas or both
 - Frequency reuse and cell-to-cell interference (both FDD and TDD)
 - Level of cell network interconnect
 - MIB support
- Mobile Channel Models
 - Pedestrian (Indoor and Outdoor), Vehicular (target speed)
 - Doppler
 - Dispersive Multipath - Fast Fading
 - Simulations
- **Impact of the above mobile environment on current 802.16a Air Interface(s) parameters and performance to include:**

- Synchronization and Timing, both initial and periodic
- **Ranging**
- Power Control
- Channel coding
- Measurement methods and messaging for support of intra- and inter-cell handoff
- Effect on Advanced Antenna Systems
- Protocols
- Impact on the Services to be provided:
 - QoS
 - Data Rates, BER or PER
 - Latency
- Determination of appropriate frequency bands

Ex. 2007 [Kiernan] 1-2.

Ex. 2001 [Alberth-Dec1.] ¶¶ 45-46.

Not surprisingly, as Mr. Alberth explains, it was not until December 7, 2005 that IEEE 802.16(e), supporting mobility, was approved:

The IEEE 802.16 family of standards (including 802.16a-2003) did not support mobile users until version 802.16e, approved on December 7, 2005. This is confirmed by, for example, another article authored by Roger Marks. Dr. Marks explains that the 802.16 working group “began a new project” to “add support for mobile terminals” in 2002. Ex. 2008 [Marks] 74. While the project “brought in a large number of participants and new technology ideas,” it was not until 2005 when the

details, including feasibility and desirability, were worked out and support for mobile terminals were supported through the IEEE 802.16e amendment. *Id.*

In fact, even after approving the IEEE 802.16e amendment in 2005, the working group continued its work on other “critical issues” to support mobility, leading to IEEE 802.16f amendment in 2005 and IEEE 802.16g amendment in 2007. Ex. 2008 [Marks] 74. In short, it was not until at least 2005 that the IEEE 802.16 family of standards could support mobile users, with many of the details being worked out even later than 2005.

Ex. 2001 [Alberth-Decl.] ¶¶ 46-47.

In the face of the above, Petitioner submits Kitroser, a single one of the many submissions to the IEEE 802.16 in response to the Call for Contributions to assess desirability and feasibility of adding mobility to the standard. Petitioner argues that because Kitroser makes a conclusory assertion that “[n]o changes are required in the PHY layer ranging mechanism,” then a POSITA would have known that it could implement IEEE 802.16a-2003’s ranging process on a mobile device with a reasonable expectation of success. Pet., 60. Yet, Petitioner makes no effort to show, for example:

- i. Whether Kitroser’s statement is in fact true, and whether a POSITA would in fact have had a reasonable expectation of success in

implementing IEEE 802.16a-2003’s ranging process on a mobile device without making any changes to the PHY layer;

- ii. Why, even if Kitroser’s statement is credited as true, PHY layer was the only relevant aspect of IEEE 802.16a-2003 to implement its ranging mechanism with a reasonable expectation of success.

Notably, the IEEE 802.16 committee issued a “IEEE 802.16e Mobile System & Proposal Evaluation Requirements,” requiring that proposals “show method and performance” as a requirement for evaluation, including for “ranging”:

Proposed enhancements to the 802.16a air interface to support mobility shall be evaluated in accordance with the following criteria:

PE26	Ranging and tracking	Show method and performance
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Ex. 2020 [Proposal-Evaluation-Requirements] 1, 3.

Petitioner’s Kitroser reference provides no support whatsoever for its naked assertion regarding the ranging channel. In fact, Kitroser also co-authored a second, later submission, this time proposing changes to the ranging mechanism of IEEE 802.16 for mobile users, stating:

Here, *we propose to modify* the current paging-and-response procedure *by assigning a dedicated ranging channel* (code) to a MSS at the same time when BS pages a MSS in Idle Mode. In this way, the possible collision and back-off can be completely avoided.

Ex. 2023 [Kitroser-Second-Submission] 3; *see also id.*, 1 (identifying Itzik Kitroser as a contributor).

And this second Kitroser submission appearing to contradict the first submission (i.e., Petitioner’s reference) is just the tip of the iceberg. Between the initiation of the IEEE 802.16 sessions to address mobility in January 2003, and the Patent’s priority date of January 2004, there were more than 80 different submissions made to the standards committee, with many more submissions also coming in after January 2004. *See* Ex. 2018 [Committee Submission List], Sessions #23-29.

Some of the submissions specifically advocating for the need for changes to the IEEE 802.16 ranging for inclusion in IEEE 802.16(e) are summarized below:

Date of Submission	Name of Submission	Proposed Changes to Ranging Process
Jul. 7, 2004	Initial Ranging Overhead Reduction (IEEE C802.16e-04/225r1). Ex. 2022	“Careful design of broadcast messages is necessary to ensure the overhead can be minimized. Here we propose <i>a method to reduce the UL and DL overhead incurred by a MSS who is performing initial ranging with the target BS.</i> ” Ex. 2022 [Zhang-First-Submission] 2.

Date of Submission	Name of Submission	Proposed Changes to Ranging Process
Aug. 28, 2004	Enhanced Paging with Assigned Ranging Code – Harmonization Ad-hoc Consensus Contribution (IEEE C802.16e-04/297r1). Ex. 2023	“Here, <i>we propose to modify</i> the current paging-and-response procedure <i>by assigning a dedicated ranging channel</i> (code) to a MSS at the same time when BS pages a MSS in Idle Mode. In this way, the possible collision and back-off can be completely avoided.” Ex. 2023 [Kitroser-Second-Submission] 3.
Aug. 28, 2004	Enhanced initial ranging and BW request ranging (IEEE C802.16e-04/300r1). Ex. 2024	“ <i>This contribution reduces the ranging overhead</i> and allows BS the flexibility in assigning UL resource.” Ex. 2024 [Zhang-Second-Submission] 1 (Abstract).
Aug. 29, 2004	Ranging Code Power Enhancement for 802.16e OFDMA PHY (IEEE C802.16e-04/145r1). Ex. 2021	“The contribution proposes an <i>enhancement</i> to the <i>ranging code selection process</i> that can compensate for the limitations in the <i>transmit power capability of portable, battery operated subscriber stations.</i> ” Ex. 2021 [Baum] 1 (Abstract)
Sep. 2, 2004	Support for ranging in small FFT sizes (IEEE C802.16e-04/255r1). Ex. 2019	“We propose to <i>shorten the ranging code</i> in order to fit into the ranging allocation.” Ex. 2019 [Lomnitz] 2.

As should be clear from the above, when Petitioner’s evidence is considered in the context of the overall state of the art, it fails to establish “sufficient certainty” for a POSITA to have had a reasonable expectation of success in implementing IEEE 802.16a-2003 with mobile users. As the Federal Circuit has explained:

[I]t was Lilly’s burden to demonstrate that despite any unpredictability in the literature, a skilled artisan nevertheless would have had a reasonable expectation of success. Both sides presented numerous pieces of evidence on the blood-brain barrier issue, including prior art references and expert testimony. The Board weighed the evidence supporting each side of the factual dispute and found that *sufficient uncertainty and unpredictability remained—i.e., that Lilly’s evidence failed to demonstrate enough certainty [...] to give a skilled artisan a reasonable expectation of success*. That finding is consistent with our past holdings that “[u]npredictability of results equates more with nonobviousness rather than obviousness.” *Honeywell*, 865 F.3d at 1356.

Eli Lilly, 8 F.4th at 1349.

Therefore, Petitioner has failed to show a reasonable expectation of success in the combination of IEEE 802.16a-2003 and Kitroser in its Ground 2.

b. Petitioner’s Reliance On The Truth Of Statements In Kitroser Is Inadmissible Hearsay.

As is apparent from the discussion in the immediately preceding section, Petitioner relies on Kitroser for the truth of the statement that “[n]o changes are required in the PHY layer ranging mechanism” of IEEE 802.16a-2003, such that a POSITA would in fact have had a reasonable expectation of success in implementing IEEE 802.16a-2003 with mobile users. Pet., 60. However, such a reliance transforms Kitroser into inadmissible hearsay, subject to exclusion. This

is yet another basis to discount Kitroser as potential evidence that could support institution.

The Federal Rules of Evidence “shall” apply to Inter Partes Review proceedings. 37 C.F.R. § 42.62(a). A statement offered to prove the truth of the matter asserted constitutes hearsay. FRE 801(c). Hearsay is not admissible unless an exception applies. *See* FRE 802; *US Endodontics, LLC v. Gold Standard Instruments, LLC*, PGR2015-00019, Paper 54, 40-42 (PTAB Dec. 28, 2016) (granting motion to exclude hearsay where no exception applied). No exception is shown to apply here.

Therefore, Kitroser is here excludible as inadmissible hearsay. For this additional reason, Petitioner fails to show a reasonable likelihood of success for Ground 2.

IV. CONCLUSION

For the foregoing reasons, the Petition should be denied.

Respectfully submitted,

 / Kenneth J. Weatherwax /

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Date: August 21, 2023

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner Preliminary Response (the “POPR”) consists of 8,960 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: August 21, 2023

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the following documents were served by electronic service, by consent between the parties (Pet. at 64), on the date signed below:

PATENT OWNER'S PRELIMINARY RESPONSE

EXHIBITS 2001-2024

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