

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

Petitioners,

v.

APEX BEAM TECHNOLOGIES LLC,

Patent Owner.

Patent No. 10,568,113
Filing Date: August 9, 2018
Issue Date: February 18, 2020

Inventor: Xiaobo Zhang
Title: METHOD AND DEVICE IN UE AND BASE STATION
USED FOR WIRELESS COMMUNICATION

PATENT OWNER'S SUR-REPLY

Case No. IPR2023-00601

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<i>In re Zletz</i> , 893 F.2d 319 (Fed. Cir. 1989)	3, 9
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Other Authorities

37 C.F.R. § 42.23(b)	6, 17
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EXHIBIT LIST

Exhibit No.	Description of Document
2001	Invalidity Contentions for U.S. Patent No. 10,568,113 Based on Xia either alone or in combination with Jover, Vembu, and Deenoo, <i>Apex Beam Technologies LLC v. Samsung Electronics Co., Ltd., et al.</i> , Case No. 2:22-cv-00188-JRG, served March 2, 2023
2002	Docket Control Order, Dkt. 37, <i>Apex Beam Technologies LLC v. Samsung Electronics Co., Ltd., et al.</i> , Case No. 2:22-cv-00188-JRG (E.D. Tex. February 6, 2023)
2003	Order Denying Motion to Stay Pending <i>Inter Partes</i> Review, Dkt. 55, <i>Apex Beam Technologies LLC v. Samsung Electronics Co., Ltd., et al.</i> , Case No. 2:22-cv-00188-JRG (E.D. Tex. June 14, 2023)
2004	Defendants' Patent L.R. 3-3 Invalidity Contentions and Subject Matter Ineligibility Contentions, <i>Apex Beam Technologies LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:22-cv-00188-JRG, served March 2, 2023
2005	Redline Comparison of the Declaration of Harry R. Bims, Jr., Ph.D. (Ex. 1003) to the Petition
2006	Declaration of Miguel Gomez ("Gomez Decl."), dated December 26, 2023 and Exhibit A, Curriculum Vitae of Miguel Gomez.
2007	Deposition of Harry Bims, taken in <i>Samsung Elecs. Co., v. Apex Beam Techs. LLC</i> , IPR2023-00601 and IPR2023-00602, on December 13, 2023. ("Bims Depo.")

I. INTRODUCTION

Petitioner's Reply (Paper 18, "Reply") confirms patentability for several reasons.

First, Petitioner fails to construe "triggering the transmission" properly as "causing the transmission." For example, Petitioner's Reply emphasizes how Petitioner intentionally ignores the causality between a measurement value that causes the transmission of two different radio signals, as required by Claim 1 of the '113 Patent, in lieu of one BFRQ transmission that occurs sequentially after a beam failure event, as in Xia. Petitioner's new arguments related to applying Patent Owner's proposed construction should be rejected.

Second, Petitioner fails to construe each of the "first time window," "second time window," and "third time window." Instead, Petitioner focuses on what it considers the plain and ordinary meaning of "time window" as arbitrary "periods of time" which renders each of the three terms meaningless since radio signals naturally are transmitted and received in periods of time. Petitioner ignores the purpose of each of the three different time windows, as disclosed in the '113 Patent. Petitioner's new arguments related to applying Patent Owner's proposed constructions for these terms should be rejected or given little to no weight because they are untimely and inconsistent with the record.

Third, Petitioner fails to articulate a proper motivation to combine Xia and

Jover particularly since it admits that Jover does not even mention beam recovery requests and Jover discloses the divergent direction of beam sweeping or nullifying a signal rather than improving the beam strength or maximizing aerial resources, as the '113 Patent describes.

Fourth, Petitioner cannot exclude the testimony of Patent Owner's expert, Mr. Miguel Gomez, by simply questioning his ability to testify on the patentability issues presented in this proceeding. Mr. Gomez is qualified to offer testimony on issues from the perspective of an ordinarily skilled artisan and has presented opinions based on specialized knowledge, training, and experience. In relevant part, Mr. Gomez graduated with a Bachelor of Science Degree from Yale University in Electrical Engineering and has over thirty five years of experience in the design and development of hardware and software technology used in telecommunications, data communications, wireless transmission and related protocols. Recognizing his vast experience, Mr. Gomez has been retained as an expert, in several cases involving the investigation of VHDL, Verilog, C, and C++ source code that implemented OFDM. During his deposition, Mr. Gomez properly addressed all questions and demonstrated his qualifications to testify from the perspective of an ordinary skilled artisan. *See generally* Ex. 1025. Petitioner's attempt to call into question Mr. Gomez's qualifications, while foregoing the opportunity to secure contradictory

reply expert testimony,¹ demonstrates the weakness of the Petition's ("Pet.") grounds for unpatentability. Patent Owner recognizes the Board's broad discretion to assign weight to expert testimony and submits that Mr. Gomez's expert testimony should be accorded substantial weight.

Accordingly, the Board should issue a Final Written Decision finding all the Challenged Claims of the '113 Patent not unpatentable.

II. PETITIONER'S FAILURE TO PROPERLY CONSTRUE "TRIGGERING THE TRANSMISSION" IS FATAL TO ITS OBVIOUSNESS ARGUMENTS

The words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989); *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372 (Fed. Cir. 2004). As Patent Owner's Response (Paper 16, "POR," at 8-10) explained, the plain and ordinary meaning of "triggering the transmission" (as interpreted by Petitioner) as merely connotating "transmission" is inconsistent with the patent specification and the claim language because Petitioner's apparent "plain and ordinary" construction renders the terms meaningless and reads out claim requirements.

¹ Notably, Petitioner chose to forgo taking the deposition of Mr. Gomez for this proceeding.

A. Petitioner’s Apparent Ignorance of “Triggering the Transmission” Renders the Term Meaningless and Necessitates Construction

Petitioner’s proposal to construe the claim term “triggering the transmission” as plain and ordinary meaning is deficient because Petitioner’s understanding of the plain and ordinary meaning of “triggering the transmission” as merely “transmission” reads out claim requirements and renders the term meaningless.

Petitioner’s Reply confirms that the only trigger disclosed in Xia is a beam failure trigger, not a trigger for transmission, as the claim requires. Reply at 3; (citing Ex. 1004, [0076]) (“To detect a beam failure, the UE (e.g., UE 404) monitors a reference signal (beam failure detection RS) to assess whether a beam failure trigger condition has been met”). Petitioner self-servingly removes the example of a beam failure trigger condition that has nothing to do with whether a subsequent transmission occurs. See Ex. 1004, [0076] (“[T]o assess whether a beam failure trigger condition has been met (e.g., beam signal strength has dropped below a threshold).”).

Paying lip service to the term “triggering the transmission” by repeating the claim term in a sentence juxtaposed with language from Xia is not evidence of disclosure or “‘explicitly address[ing]’ the claimed ‘triggering.’” See Reply at 2. As described further below, none of Petitioner’s other examples are availing to show the necessary causality for the claimed “triggering the transmission.” Without any

causality, the term “triggering the transmission” merely amounts to “transmission.” Since Petitioner’s apparent construction of the claimed “triggering the transmission” renders the term “triggering” meaningless, it should therefore be rejected. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021) (citing *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017)) (“It is highly disfavored to construe terms in a way that renders them void, *meaningless*, or superfluous.”) (emphasis added).

B. Petitioner Does Not Dispute Patent Owner’s Expert Testimony

Patent Owner relies on the expert testimony of Mr. Gomez (not vice versa as Petitioner claims without evidence) (Reply at 4), who relies on dictionary definitions that he believed were the same understanding that a POSITA would have had of “triggering the transmission” at the time of the claimed invention. Petitioner does not seem to dispute that the plain and ordinary meaning of “triggering the transmission” is “causing the transmission” but rather that an explicit construction is not necessary because the plain and ordinary meaning is evident. To the extent this is the case, Patent Owner requests the Board to consider that the plain and ordinary meaning of “triggering the transmission” is in fact “causing the transmission.”

**C. Petitioner’s New Arguments Based on Patent Owner’s
Proposed Construction of “Triggering the Transmission”
Should Be Rejected**

Petitioner blatantly circumvents the Board’s Trial Practice Guide that states that a reply “may only respond to arguments raised in the preceding brief,” which means that it does not “proceed in a new direction with a new approach as compared to the positions taken in a prior filing” “in the context of 37 C.F.R. § 42.23(b).” Patent Trial and Appeal Board Consolidated Trial Practice Guide (“Trial Practice Guide”) (Nov. 2019), at 74, available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>. However, that is exactly what Petitioner does in its Reply. Reply at 5-9 (“*Xia* Discloses the ‘Triggering’ Limitation, Regardless of Whether Apex’s Construction is Applied”). Instead of merely arguing against Patent Owner’s proposed claim construction, Petitioner improperly applies Patent Owner’s proposed construction to formulate a new approach and rationale for obviousness. *Id.*; Trial Practice Guide, at 74 (“While replies and sur-replies can help crystalize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered.”).

Mapping *Xia* alone or *Xia* in combination with *Jover* to Patent Owner’s proposed construction of “triggering the transmission” rises to the level of a “newly raised rationale to combine the prior art references that was not expressed in the petition” that is barred by the Board. *See id.* (citing *Intelligent Bio-Sys., Inc. v.*

Illumina Cambridge Ltd., 821 F.3d 1359, 1369–70 (Fed. Cir. 2016)). As a result, the Petitioner’s new argument applying Patent Owner’s claim construction should not be considered by the Board.

D. Petitioner’s New Arguments Based on Patent Owner’s Proposed Construction of “Triggering the Transmission” Is Incorrect

Petitioner’s mapping to Xia alone or in combination with Jover, is incorrect.

As noted above, Petitioner merely pays lip service to the “triggering the transmission” claim limitation because a trigger for beam failure is not a trigger for transmission of two signals. *See supra* Section II.A.

Petitioner’s alleged “numerous examples” of causal triggering conditions in Xia for transmitting the claimed first and second radio signals are similarly irrelevant or do not exist. For example, Xia’s trigger is related to whether “beam signal strength has dropped below a threshold”). *See* Reply at 6 (citing to Ex. 1004, [0078]). Xia is otherwise silent on whether the beam signal strength value is itself “used for triggering the transmission of the first radio signal and the second radio signal” (i.e., causing the transmission of the first radio signal and the second radio signal) as the claimed limitation requires. Rather, as Petitioner describes, Xia only discloses that BFRQs are transmitted after a single beam failure event. Reply at 6-7 (citing Ex. 1004, [0066], [0091], claims 1, 10). Making the logical leap from a transmission subsequent to a beam failure trigger condition to *two* transmissions *caused by* that

beam failure trigger condition is improper and only informed by hindsight.

Petitioner ignores the totality of the claim limitation: “the target measurement value, when higher than a target threshold is used for triggering the transmission of the first radio signal and the second radio signal.” Even if “in response to detecting the beam failure event, the UE 110 sends a first beam failure recovery request (BFRQ),” (Reply at 7 (citing Ex. 1004, [0105]-[0106])), the Petition is still deficient for two reasons. First, sending a BFRQ in response to a beam failure event does not disclose a “*target measurement value* ... used for triggering the transmission ...” because a beam failure event on its own is not a “target measurement value.” Second, FIGS. 7A and 7B of Xia do not show “triggering the transmission of the first radio signal *and* the second radio signal.” As FIGS. 7A and 7B of Xia show, the box indicating “send[ing] a second BFRQ for same beam failure event” is not related to “send a first BFRQ” in response to “detect beam failure event” and therefore, is not using a measurement value trigger for transmission of the second BFRQ, let alone the same measurement value trigger as the first BFRQ:

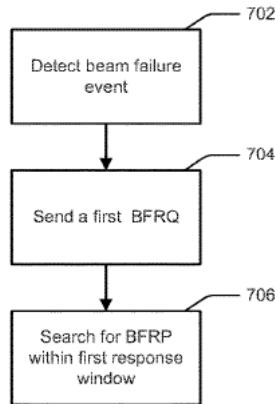


FIG. 7A

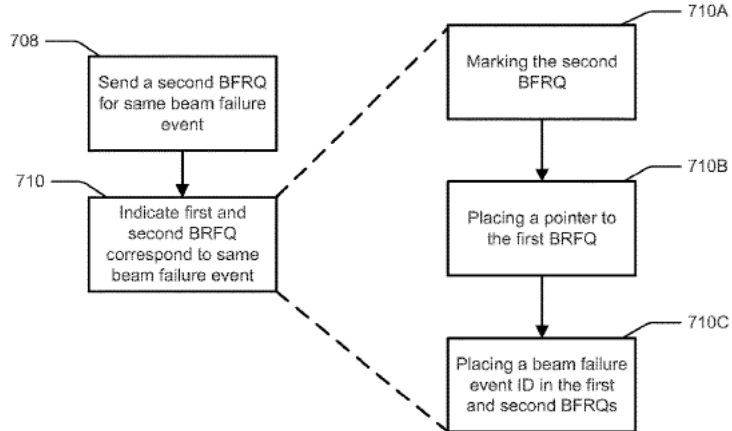


FIG. 7B

Ex. 1004, FIGs. 7A, 7B.

Petitioner then admits that Jover has nothing to do with disclosing “triggering a transmission of the first and second radio signal” because, allegedly, “Xia already discloses these features.” Reply at 8. Petitioner further admits that Jover only teaches “a specific triggering condition” completely divorced from the claimed “transmission of the first and second radio signal.” *Id.*

For the reasons above, Xia alone or in combination with Jover does not disclose using a measurement value to cause the transmission of the first and second radio signal, as Claim 1 requires.

III. PETITIONER’S FAILURE TO PROPERLY CONSTRUE “FIRST TIME WINDOW,” “SECOND TIME WINDOW, AND “THIRD TIME WINDOW” IS FATAL TO ITS OBVIOUSNESS ARGUMENTS

The words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. *In re Zletz*, 893 F.2d at 321; *Chef*

Am., Inc., 358 F.3d at 1372. As Patent Owner’s Response (Paper 16, “POR,” at 10-14) explained, (i) the plain and ordinary meaning of “triggering the transmission” (as interpreted by Petitioner) as merely connotating “transmission” and (ii) the plain and ordinary meaning of each of “first time window,” “second time window,” and “third time window” as merely “periods of time” are inconsistent with the patent specification and the claim language because Petitioner’s apparent “plain and ordinary” construction renders the terms meaningless and reads out claim requirements.

A. Petitioner’s Arguments Related to Patent Owner’s Consistency with Claim Construction in the Related District Court Litigation are Irrelevant

Petitioner’s arguments regarding consistency with the related district court litigation should be rejected as irrelevant.

As a preliminary matter, the full claim construction record was never fully established in the related district court litigation because the case was stayed prior to the Markman Hearing. Ex. 2003.

Additionally, it is commonly accepted practice to have different claim constructions between district court litigation and the PTAB particularly as the record for both infringement and invalidity develops. For example, litigants before the Eastern District of Texas (the jurisdiction of the related district court litigation) have previously argued that the record before the PTAB shows that their opponent

has taken inconsistent positions. In *Garrity Power Servs, LLC v. Samsung Elecs. Co.*, the plaintiff argued that the defendant was barred from proposing a construction for a claim term in district court because the defendant did not propose a construction for that claim term in its IPR petition. *Garrity Power Servs. LLC v. Samsung Elecs. Co.*, No. 2:20-cv-00269, Dkt. 102 (E.D. Tex. Aug. 4, 2021). The district court disagreed, reasoning that the PTAB construes claim terms only where necessary to resolve the disputes in the IPR, in the limited context of reviewing validity. *Id.* The district court thus did not find the defendant’s decision not to propose a construction before the PTAB to preclude the defendant from proposing a construction in district court, where claim construction may be necessary for other reasons (*e.g.*, to resolve questions of infringement). *Id.*

B. Petitioner’s Reply Highlights Why Constructions are Necessary for the “Time Window” Terms

Petitioner’s Reply explicitly provides an incorrect construction of the three different “time window” terms when it states that “the same claim terms should be construed in the same manner.” Reply at 11. However, the three terms are not the “same claim terms.” In fact, Patent Owner’s proposed constructions provide the same definition of the shared words “time window” as “period of time,” which Petitioner seems to agree with.

However, it is Petitioner that flouts the law in not giving meaning to the other words in each of the claim terms: “*first* time window,” “*second* time window,” and

“**third** time window.” Specifically, Petitioner’s proposal to construe each of the “time window” terms as plain and ordinary meaning is deficient because Petitioner’s understanding of the plain meaning of each of the “first time window,” “second time window,” and “third time window” as arbitrary “periods of time” reads out claim requirements and renders the terms meaningless especially since radio signals must be transmitted and received during a period of time. Since Petitioner’s apparent construction of the time window terms as arbitrary periods of time renders the time window terms meaningless, it should therefore be rejected. *Intel Corp.*, 21 F.4th at 810 (citing *Wasica Fin. GmbH*, 853 F.3d at 1288 n.10) (“It is highly disfavored to construe terms in a way that renders them void, **meaningless**, or superfluous.”) (emphasis added).

Petitioner’s cited case law, allegedly describing how reading purpose into a construction is improper, is inapposite. The case law merely states that you cannot “improperly read a ‘purpose’ requirement” (where the purpose is incorrect) or “read a purpose from the specification into the claim where the term ‘has another purpose as well.’” Reply at 12-13. In fact, the purpose of a claim term may be used to construe that term where the preferred embodiment is the only embodiment tied to the purpose of the invention. *InterDigital Commc'ns, Inc. v. U.S. Int'l Trade Comm'n*, 601 F. App'x 972, 978 (Fed. Cir. 2015) (ordering construction based on description of limitation of preferred embodiment where that was only embodiment and description

expressly tied to purpose of the invention, despite limitation not repeated in summary of the invention); *KEYnetik, Inc. v. Samsung Elecs. Co.*, 837 F. App'x 786, 792 (Fed. Cir. 2020) (“[a] patent’s statement of the described invention’s purpose informs the proper construction of claim terms”) (citations omitted).

Petitioner’s subsequent argument that Patent Owner’s proposed construction is redundant in view of the explicit claim language falls flat when it just argued that Patent Owner reads in additional “purpose” into the proposed construction. It is unclear then whether Petitioner is alleging that Patent Owner has a redundant construction or unnecessary purpose. Therefore, Petitioner’s playing of both sides renders its argument futile.

C. Patent Owner’s Correct Construction Stems from Lexicography

As noted above, Petitioner’s faulty apparent constructions stem from viewing the claimed first time window, second time window, and third time window as three arbitrary periods of time. But that does not provide any meaning to a person of ordinary skill in the art since signals are necessarily transmitted and received over periods of time. As Patent Owner does, the meaning of these three terms must be derived from the lexicography of the ’113 Patent specification.

1. First Time Window

Petitioner is incorrect that ’113 Patent’s FIG. 6 does not support Patent Owner’s proposed construction of “first time window.” And its argument is unclear.

As Petitioner admits, “the ‘first time window’ starts a period of time after the ‘first radio signal’ and extends a period of time beyond the ‘third radio signal.’” Reply at 16. That only corroborates Patent Owner’s construction because the first time window is a period of time allocated to monitor the reception of a third radio signal. In other words, a third radio signal may or may not be received within the first time window. If a third radio signal is received within the first time window, it follows that the end of the first time window “extends a period of time beyond the [reception of the] ‘third radio signal,’” as Petitioner admits. Reply at 16. Petitioner fails to cite any case law or statute that prevents a construction from including the function of the claim term, which is what Patent Owner’s proposed construction does in order to clarify the term beyond an arbitrary period of time, as Petitioner attempts to construe all the time window terms.

2. Third Time Window

Petitioner’s Reply only exemplifies why a construction for the “third time window” is necessary because it simply reads a third time window to be a period of time from the second radio signal to the end of the first time window. Reply at 17-18. However, any period of time (*e.g.*, a first time window under Petitioner’s construction) constitutes smaller periods of time within it. Thus, under Petitioner’s apparent construction, the third time window term is meaningless beyond the start and end time without any discernible purpose or function for the time window. As

with the first time window, FIG. 6 only corroborates Patent Owner’s proposed construction because the third time window is a period of time allocated to monitor the reception of a third radio signal after the second radio signal. In other words, a third radio signal may or may not be received within the third time window. If a third radio signal is received within the third time window, it follows that the end of the third time window “extends a period of time beyond the [reception of the] ‘third radio signal,’” as Petitioner admits. Reply at 18.

3. Second Time Window

The “second time window” is the most egregious example of Petitioner’s rendering a term meaningless. Petitioner’s Reply exemplifies that its apparent construction of the term is an arbitrary period of time that happens to occur “after the ‘first radio signal’ and extends a period of time beyond the ‘second radio signal.’” Reply at 18. In fact, Petitioner’s Reply fails to articulate any purpose or function for the claimed second time window outside of Patent Owner’s proposed construction.

Claim 1 of the ’113 Patent requires “the target measurement value, when higher than a target threshold is used for triggering the transmission of the first radio signal and the second radio signal.” It follows that *both* the first radio signal and second radio signal need to be transmitted regardless of if and when a third radio signal is received. Therefore, since the first and third time window are directed towards monitoring reception of the third radio signal, the purpose or function of the

second time window must be different. As Patent Owner indicates, '113 Patent, 22:53-54 indicates that “the second radio signal is [transmitted] within the second time window” because that is the purpose of the second time window to ensure that the claim limitation of “triggering the transmission of the first radio signal and the second radio signal” is met. Petitioner feigns ignorance of the purpose of the second time window and whether '113 Patent, 22:53-54 is indicative of such a purpose while entirely avoiding suggesting a different function or purpose of the second time window.

Petitioner’s argument against Patent Owner’s citation to '113 Patent, 22:56-60 (“The UE conducts monitoring of the third radio signal in a time interval between the start time of the first time window and the time domain resource occupied by the second radio signal”) misses the point. The second time window is the “time interval between the start time of the first time window and the time domain resource occupied by the second radio signal” and this section indicates that the third radio signal may not be detected in that time period, which shows that the function or purpose of the second time window is not related to reception of the third radio signal. Petitioner does not seem to dispute this. Reply at 18.

Patent Owner’s proposed construction is further supported by FIG. 6 of the '113 Patent because the second time window is a period of time allocated to monitor the transmission of a second radio signal after the first radio signal. If a second radio

signal is transmitted within the second time window, it follows that the end of the second time window “extends a period of time beyond the [transmission of the] ‘second radio signal,’” as Petitioner admits. Reply at 18.

D. Petitioner’s New Arguments Based on Patent Owner’s Proposed Construction Should Be Rejected

Petitioner blatantly circumvents the Board’s Trial Practice Guide that states that a reply “may only respond to arguments raised in the preceding brief,” which means that it does not “proceed in a new direction with a new approach as compared to the positions taken in a prior filing” “in the context of 37 C.F.R. § 42.23(b).” Patent Trial and Appeal Board Consolidated Trial Practice Guide (“Trial Practice Guide”) (Nov. 2019), at 74, available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>. However, that is exactly what Petitioner does in its Reply. Reply at 19-23 (“*Xia* Discloses the ‘Time Window’ Limitations, Regardless of Whether Apex’s Constructions Are Applied”). Instead of merely arguing against Patent Owner’s proposed claim construction, Petitioner improperly applies Patent Owner’s proposed construction to formulate a new approach and rationale for obviousness. *Id.*; Trial Practice Guide, at 74 (“While replies and sur-replies can help crystalize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered.”).

Mapping *Xia* alone or *Xia* in combination with *Jover* to Patent Owner’s proposed construction of “first time window,” “second time window,” and “third

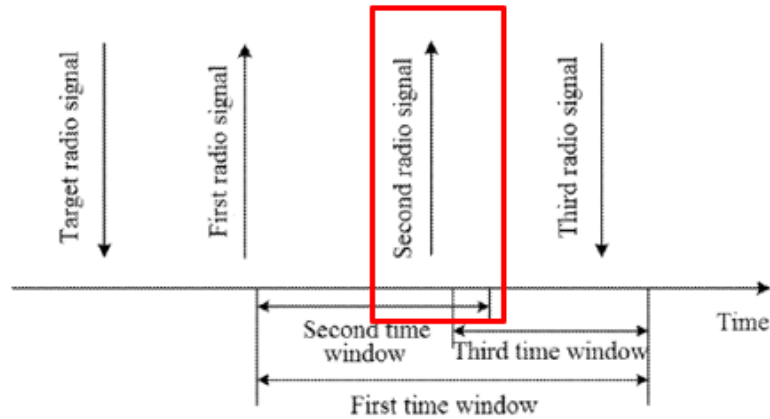
time window” rises to the level of a “newly raised rationale to combine the prior art references that was not expressed in the petition” that is barred by the Board. *See id.* (citing *Intelligent Bio-Sys., Inc.*, 821 F.3d at 1369–70). As a result, Petitioner’s new argument applying Patent Owner’s claim constructions should not be considered by the Board.

E. Petitioner’s New Arguments Based on Patent Owner’s Proposed Constructions of “First Time Window,” “Second Time Window,” and “Third Time Window” Are Incorrect

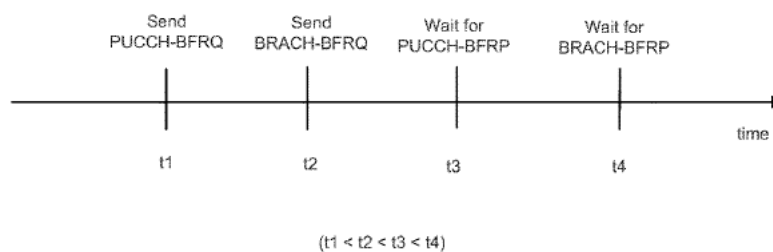
Petitioner’s mapping to Xia is incorrect.² Petitioner all but admits that Xia does not disclose the claimed “second time window” because it notes that the “second time window” is just an arbitrary period of time. *See Reply* at 20. Although Petitioner states that Xia nonetheless discloses the “second time window” according to Patent Owner’s proposed construction, it does not because the mere presence of a time period that exists between “t1 to t3” is not the required “a period of time from the first radio signal in which to transmit the second radio signal.” *Id.* at 21. Rather, Xia’s time period from t1 (the time that PUCCH-BFRQ is transmitted) to t3 (the time to wait for PUCCH-BFRP) exists regardless of whether a BRACH-BFRQ is transmitted in some separate time window. This can be contrasted with Petitioner’s own admission that the end of the second time window, as shown in FIG. 6 of the

² Petitioner’s Reply confirms that it does not rely on the combination of Xia and Jover for the “second time window” claim limitation.

'113 Patent, “extends a period of time *beyond the [transmission of] the ‘second radio signal,’*” as shown below.”



'113 Patent, FIG. 6 (annotated to show the extension beyond the transmission of the second radio signal); Reply at 18 (emphasis added). In FIG. 6B of Xia, t_2 occurs at *the exact moment* of the “Send BRACH-BFRQ,” indicating that there is no separate time window in which to transmit the second radio signal triggered by the target measurement value after the transmission of the first radio signal:



Ex. 1004, FIG. 6B; *see also* '113 Patent, Claim 1 (“the target measurement value, when higher than a target threshold is used for triggering the transmission of the first radio signal and the second radio signal”).

Therefore, Xia is completely missing a second time window and therefore,

alone or in combination with Jover, cannot render obvious the challenged claims of the '113 Patent.

IV. THERE IS NO MOTIVATION TO COMBINE XIA WITH JOVER

The Board should reject Petitioner's blatant attempt to bypass the law regarding motivation to combine Xia with Jover. Specifically, Petitioner seems to articulate that as long as Xia and Jover are "directed to communication failure" generally and Jover does not "explicitly teach[] away from the use of beam recovery requests," a person of skill in the art would be motivated to combine Xia with Jover. Reply at 22. Aside from opening up the universe of obvious combinable references to conceivably any reference related to telecommunications, Petitioner performs the wrong inquiry to determine a motivation to combine, particularly where the methods for dealing with communication failure are the opposite *or divergent* in Xia / the '113 Patent and Jover.

Petitioner's cited case law underscores that if "a person of ordinary skill, upon reading the reference . . . would be led in a direction divergent from the path that was taken by the applicant," there is teaching away. Reply at 22 (citing *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)). The divergence is apparent on its face since Petitioner admits that "*Jover* does not mention beam recovery requests." Reply at 22. As Patent Owner explained, Jover provides no attempt to improve the beam strength or maximize aerial resources, as the '113 Patent explains (i.e., "the path that

was taken by the applicant”), but rather ignores it through beam sweeping or nullify it (i.e., “a direction divergent”). *See* POR, 22-24.

Petitioner’s attempt to characterize the disclosure of Jover as “express[ing] a general preference for an alternative invention” is unavailing since Petitioner fails to articulate what preference or alternative is disclosed by Jover other than its only disclosure of “beam steering and null generation.” Reply at 22-23 (citing *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)); POR, 23 (citing Ex. 1005, [0003], [0033]).

To the extent any trigger condition using a threshold is disclosed by Jover, it would be divergent (or irrelevant at best) to the purpose of Xia or the ’113 Patent and therefore not obvious to combine with Xia. Thus, Petitioner’s argument suggesting that Patent Owner requires Jover to be bodily incorporated into Xia is a red herring and should be rejected by Board. Reply at 23.

Therefore, a person of ordinary skill in the art would not have looked to combine Xia with Jover or look to Jover at all since Jover is directed to the opposite objective of the ’113 Patent or Xia and Petitioner cannot prove that the Challenged Claims are rendered obvious by Petitioner’s Ground 2.

V. ANY COMBINATION OF XIA AND JOVER DOES NOT RENDER CLAIMS 2-20 OBVIOUS

As Petitioner indicates, Patent Owner's arguments for Claims 2-20 rely on the same arguments for Claim 1 (Reply at 23), and, for at least the same reasons as Claim 1, any combination of Xia and Jover fails to obviate Claims 2-20.

VI. MR. GOMEZ IS QUALIFIED TO OFFER EXPERT TESTIMONY FROM THE PERSPECTIVE OF AN ORDINARILY SKILLED ARTISAN

Although the parties agree that “[a]dditional relevant work experience can compensate for less education,” (Pet. at 14), Petitioner does not clarify what the metes and bounds of that “additional work experience” might be in its Reply. Even after the Board noted that “Petitioner’s last sentence regarding additional relevant work experience compensating for less education and *vice versa*, [] is vague” (Paper 11, Inst. At 10-11), Petitioner’s Reply provides no further clarification or rebuttal of Patent Owner’s proposed “additional relevant work experience” outside of stating that the technological experience should be limited to MIMO instead of telecommunications even though MIMO is a small subset of telecommunications. Reply at 24-25. Since Patent Owner provided the only definition of a person of skill in the art with a clear scope, Patent Owner’s definition should be adopted. Mr. Gomez satisfies Patent Owner’s proposed definition (as well as Petitioner’s proposed definition, despite its lack of clarity). In addition to a Bachelor of Science Degree from Yale University in Electrical Engineering, Mr. Gomez has over “thirty

five years of experience in the design and development of hardware and software technology used in telecommunications, data communications, wireless transmission and related protocols.” *See* Ex. 2005, Exhibit A, at 1, 3. Mr. Gomez has considerable experience designing products that utilize the underlining technologies of Spread Spectrum (802.11a,b,g,n), LTE, OFDM, RF Transmission and reception, which are in turn utilized by LTE and by 5G NR. *Id.* at 2. Specifically, the following work experiences listed in Mr. Gomez’s CV are highly pertinent to the field of “telecommunications systems,” which Petitioner agrees is the relevant field. Pet. at 14.

Mr. Gomez’s work experience began in 1983 at ROLM Corporation where he designed *transmission protocols for business telephone equipment*. Ex. 2005, Exhibit A, at 6. Later, in 1985, Mr. Gomez was a founding member of Stratacom, Inc. where he designed long haul voice and *data routing equipment*, and developed compression algorithms for *voice communications*. *Id.* Mr. Gomez’s work at Stratacom also included designing methods to include data on the *voice transmission paths that later became known as Frame Relay*. *Id.* In 1990, as a consultant, Mr. Gomez worked on circuit design in “*computing, telephony and data systems*.” *Id.* at 5 (emphasis added). At ActSolar, from August 2006 to March 2009, Mr. Gomez was Vice President and tasked with implementing both power conversion circuitry, as well as *a radio system*, to convey the health status of the

solar array to a web server. *Id.* at 3. Petitioner’s allegations that Mr. Gomez is not a POSITA in the field of wireless communications are therefore meritless and should be rejected.

Moreover, Petitioner’s arguments attacking Mr. Gomez’s qualifications are based on an incorrect heightened standard that “[t]he Board should give no weight to the testimony of Mr. Gomez because he does not qualify as a POSITA.” Reply at 23. In fact, the Board explicitly states that “[a] person ***may not need to be a person of ordinary skill in the art*** in order to testify as an expert under Rule 702, but rather must be ‘qualified in the pertinent art’” and that there is “no requirement of a perfect match between the expert’s experience and the relevant field.” Trial Practice Guide, 34 (citing *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008) and *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1373 (Fed. Cir. 2010)).

As described above, Mr. Gomez not only provides sufficient qualification in the field of wireless networking but also meets the parties’ agreed upon definition of a POSITA. And Mr. Gomez has previously been recognized as having sufficient qualification in the field of wireless networking. For example, as an expert, Mr. Gomez has been engaged in several cases relating to OFDM. Between September 2012 and August 2013, in the case of *WiLAN Inc. v. HTC Corp.* (2:11-CV-68-JRG), Mr. Gomez supported WiLAN investigating VHDL, Verilog, C, and

C++ source code that implemented **OFDM and SC-OFDMA**. Ex. 2005, Ex. A at 13-14 (emphasis added). Between May 2009 and March 2011, Mr. Gomez also investigated OFDM implementations used in 802.11a,b,g,n in the case of *WiLAN v. Acer* (2:07-CV-473). *Id.* at 18-19. In this case, Mr. Gomez also supported WiLAN investigating Verilog, C, and C++ source code that implemented **OFDM**. *Id.* (emphasis added).

Therefore Mr. Gomez easily meets the level of requisite experience for a POSITA. Mr. Gomez also responded to every question posed by Petitioner’s counsel at his depositions, and Petitioner cannot point to an instance where Mr. Gomez could not respond for lack of relevant technical experience. *See generally* Ex. 1025.

The Board has broad discretion to assign weight to be accorded expert testimony. Trial Practice Guide at 35 (citing *Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010)). Such broad discretion certainly extends here, where an expert, like Mr. Gomez, provides “testimony that is helpful to the Board” and is qualified in the pertinent art of wireless networking. *Id.* at 34 (“[T]he absence of an advanced degree in a particular field may not preclude an expert from providing testimony that is helpful to the Board, so long as the expert’s experience provides sufficient qualification in the pertinent art.”).

VII. CONCLUSION

For at least the foregoing reasons, the Board should issue a Final Written

Decision finding the Challenged Claims not unpatentable.

Respectfully submitted,

Dated: April 30, 2024

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CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned PATENT OWNER'S SUR-REPLY specified in 37 C.F.R. § 42.24 has 5,586 words in compliance with the 5,600 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word for Office 365.

Respectfully submitted,

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