

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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HTC CORPORATION AND HTC AMERICA, INC.,

Petitioners,

v.

CELLULAR COMMUNICATIONS EQUIPMENT LLC,

Patent Owner.

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Case IPR2016-01504

Patent Number: 8,867,472

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**PATENT OWNER CELLULAR COMMUNICATIONS EQUIPMENT  
LLC'S PRELIMINARY RESPONSE TO PETITION FOR  
INTER PARTES REVIEW**

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## **I. INTRODUCTION**

Pursuant to 35 U.S.C. § 313 and 37 C.F.R. §42.107, Patent Owner Cellular Communications Equipment LLC (“CCE” or “Patent Owner”) respectfully submits this Preliminary Response to HTC Corporation and HTC America, Inc.’s, (“Petitioners”) Petition seeking *inter partes* review of U.S. Patent 8,867,472 (Ex. 1001, the “’472 patent”) (“Petition”). A trial should not be instituted with respect to at least claims 10 and 11 because Petitioners have failed to demonstrate that the Seo 513 reference discloses each and every element of these claims. CCE reserves the right to address additional claims and arguments, offer evidence, and propose claim constructions if the Board requires a full response from CCE.

## **II. SUMMARY OF ARGUMENT**

Petitioners have not met their burden of proof, with respect to the only presented Ground, to show that U.S. Patent 8,625,513 to Seo, *et al.* Ex. 1004 (“Seo 513”) discloses each and every element of at least claims 10 and 11 of the ’472 patent. As such, the Board should issue a decision in favor of CCE and not institute trial as to at least claims 10 and 11.

### III. OVERVIEW OF THE '472 PATENT

The '472 patent is titled “Signalling [sic] of Channel Information” and issued on October 21, 2014. Ex. 1001. The '472 patent began as a PCT filing on March 25, 2010. Ex. 1001.<sup>1</sup>

Generally, the '472 patent describes systems and methods for reducing the amount of overhead required when reporting radio frequency channel information from a user equipment (“UE”) to a base station (“BS”).<sup>2</sup> The inventors devised a way to reduce this overhead associated with reporting this radio frequency channel information by having a base station (“BS”) request a report from a user equipment (“UE”), such as a cellular phone, on an aperiodic basis.

The UEs provide feedback in the form of channel state information (“CSI”). Ex. 1001, 2:1-10. The CSI can include channel quality indicators (“CQI”), precoding matrix indicators (“PMI”), rank indicators, channel frequency, impulse response,

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<sup>1</sup> The '472 patent has a related continuation patent, U.S. Patent 9,078,262. Both patents share a common specification. The '262 claims are directed to similar subject matter with at least the additional limitation that the component carriers are “non-contiguous.” The '262 patent is also currently subject of a pending *inter partes* review, IPR2016-01486, filed by different petitioners. No decision regarding institution has been entered to date in the -01486 case.

<sup>2</sup> The '472 patent also refers to base stations as “network control element” or “eNode-B.” Ex. 1001, 4:4-7.

and/or channel covariance matrix. Ex. 1001, 2:1-10. CSI reports may also include identification information concerning the component carrier or sub-band to which the CSI report relates. Ex. 1001, 2:1-10.

The inventors describe the '472 patent as focusing on the feedback using CSI with respect to carrier aggregation. Ex. 1001, 1:41-47. Generally, carrier aggregation groups multiple component carriers to increase the overall system bandwidth available to a UE. Ex. 1001, 1:54-61.

Figure 3 from the '472 patent shows an example of carrier aggregation using non-contiguous bands whereby the total system bandwidth contains the component carriers  $BW_1, BW_2, \dots, BW_N$ , respectively having carrier frequencies  $f_1, f_2, \dots, f_N$ . Ex. 1001, 1:54-61.

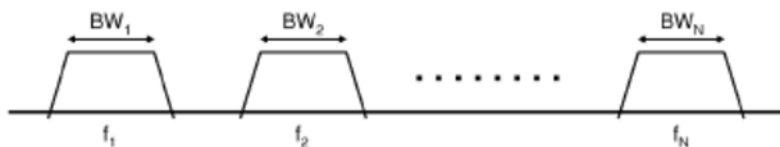


Fig. 3

The specification continues by describing the ongoing standardization of LTE-Advanced in 3GPP, which uses carrier aggregation to form bandwidths of up to 100MHz by aggregating up to five component carriers of 20 MHz each. Ex. 1001, 1:62-65. The inventors recognized that if a UE uses multiple component carriers and periodically receives requests for and transmits CSI reports, then this scheme adds an enormous amount of overhead, as each component carrier would use additional

bandwidth to report. Ex. 1001, 2:20-22. The inventors sought to reduce the size and frequency of these CSI reports and achieved that goal through the '472 patent. Ex. 1001, 2:26-42.

The inventions concern an aperiodic reporting scheme, wherein the UE first transmits a request for a physical uplink channel from a BS, *i.e.* a request to connect to the BS. The BS then transmits a response to the UE granting or denying the request. In order to reduce overhead, the '472 patent discloses a request for CSI within the uplink grant from the BS to the UE. In turn, the UE then determines the channel on which the BS wants a CSI report, prepares the CSI report, then transmits the CSI report to the BS. With the scheme devised by the inventors of the '472 patent, the UE sends CSI reports to the BS upon a request from the BS for a particular channel, thus greatly reducing the costs of reporting within the UE and BS system. Ex. 1001, 2:66-3:3; 3:30-34.

#### **IV. LEGAL STANDARDS**

##### **A. Legal Standards for the Board's Institution Decision**

An *inter partes* review may be instituted for trial ***only if*** “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. §314(a). *See also* 37 C.F.R. §42.108(c).

In assessing whether Petitioner has met its burden of proof at the pre-institution stage, the Board should limit its consideration to the evidence and

arguments presented in the Petition. By statute, a petition must “identif[y], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim . . . .” 35 U.S.C. §314(a)(3). *See also* 37 C.F.R. §42.104(b)(4) (“The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon . . . .”); 37 C.F.R. §42.22(a)(2) (the petition must include “[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence including material facts, the governing law, rules, and precedent.”).

Under the Administrative Procedure Act (“APA”), the Board’s institution decision must be made solely based on the arguments and evidence of record. *See* 5 U.S.C. §556(e). *See also Goldberg v. Kelly*, 397 U.S. 254, 271 (1970). If the Board institutes a trial based upon grounds of invalidity not articulated in the petition, or based on facts and evidence not drawn from the evidentiary record, then the patent owner is deprived of its APA procedural rights. *See, e.g.,* 5 U.S.C. §554(b) (right to fair notice); 5 U.S.C. §556(d), (e) (right to offer rebuttal evidence prior to agency determination).

The Board may not institute a case for trial if the petitioner’s only proof of a required fact or conclusion rests upon conclusory expert testimony. An expert witness must affirmatively disclose all facts and data that support the expert’s testimony. *See* 37 C.F.R. §42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no

weight.”). A petitioner has not met its burden of proof where its proof rests solely on conclusory expert testimony. *See, e.g., Unified Patents v. Custom Media*, IPR2015-00516, Paper 9 (PTAB June 15, 2015).

The Board should limit its review of IPR petitions to the evidence and arguments presented in the petition itself, and should decline to institute a trial if the petition and supporting evidence fail to meet petitioner’s burden of showing a reasonable likelihood that it will prevail post-institution. *See, e.g., Fontaine Engineered Products, Inc. v. Raildecks, Inc.*, Case No. IPR2013-00360, Paper 9 at 13-15 (PTAB Dec. 13, 2013) (denying institution where the cited portions of the prior art did not disclose a required claim element).

## **B. Obviousness**

Section 103 of the Patent Act provides that “[a] patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a). The obviousness analysis requires a number of threshold inquiries. The level of a POSA must be established, the scope and content of the prior art must be determined, and any differences between the prior art and the claims at issue must be ascertained. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966).

The Supreme Court has articulated the following test for assessing obviousness under §103:

Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

*KSR Int’l co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 at 17-18 (1966)). “A determination of whether a patent claim is invalid as obvious under §103 requires a consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness until all those factors are considered.” *Apple, Inc. v. Samsung Elecs. Co., Ltd.*, 2016 U.S. App. LEXIS 18225 at \*28-29 (Fed. Cir. Oct. 7, 2016) (*en banc*).

At the pre-institution stage, a petitioner bears the burden of showing a reasonable likelihood it will prevail following trial on at least one of the asserted grounds of obviousness. *See* 35 U.S.C. §314(a) and §316(e). *See also Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F. 3d 1375, 1378-79 (Fed. Cir. 2015); *Tietex International, Ltd. v. Precision Fabrics Group, Inc.*, IPR2014-01248, Paper No. 39 at 11 (PTAB 2016).

To meet this burden, the petition and supporting evidence must demonstrate that the alleged combination or modification of the prior art would have resulted in or disclosed the ***complete*** invention – *i.e.* each and every element of the challenged

claim. *See CFMT, Inc. v. YieldUp Int’l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (“[O]bviousness requires a suggestion of all limitations in a claim.”). In addition, the petitioner must show an explicit reason or motivation that would have caused a person of ordinary skill to modify or combine the prior art to create the complete claimed invention. *See KSR*, 550 U.S. at 418; *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (holding that both §103 and the Administrative Procedure Act require the motivation to modify or combine prior art to be explicit, and grounded in evidence that is not speculative or conclusory).

**1. Claims Cannot be Found Obvious if an Element is Absent**

If a single element of the claim is absent from the prior art, the claims cannot be considered obvious. *See CFMT, Inc. v. YieldUp Int’l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (“[O]bviousness requires a suggestion of all limitations in a claim.”) (citing *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974)); *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993) (reversing obviousness rejection where prior art did not teach or suggest all claim limitations).

**2. Reason to Combine or Modify Must Have Rational Underpinning**

The conclusion of obviousness based on a combination of references must be supported with explicit analysis of a reason to combine those references. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). The Federal Circuit has stated that such reasons must be more than “mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal

conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *accord Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008) (agreeing with the district court’s reasoning that “some kind of motivation must be shown from some source, so that the jury can understand why a person of ordinary skill would have thought of either combining two or more references or modifying one to achieve the patented method.”).

### C. Broadest Reasonable Interpretation

The Board interprets claims in an unexpired patent using the broadest reasonable interpretation (BRI) in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *TriVascular, Inc. v. Samuels*, 812 F. 3d 1056, 1062, 2016 U.S. App. LEXIS 1949, \*7 (Fed. Cir. 2016). Under this standard, “claims should always be read in light of the specification and teachings in the underlying patent claim.” *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015). “[T]he Board’s construction ‘cannot be divorced from the specification and the record evidence,’ and ‘must be consistent with the one that those skilled in the art would reach.’” *Id.* The construction must be “reasonable in light of the totality of the written description.” *In re Baker Hughes, Inc.*, 215 F.3d 1297, 1303 (Fed. Cir. 2000).

It is important to note that there are practical limits to how “broad” an interpretation may be. “Above all, [it] must be **reasonable** in light of the claims and

specification.” *PPC Broadband, Inc. v. Corning Optical Commc’ns. RF, LLC*, 815 F.3d 747, 755 (Fed. Cir. 2016) (emphasis in original); *see also SAS Institute, Inc. v. ComplementSoft, LLC*, 825 F.3d 1341, 1348 (Fed. Cir. 2016) (“While we have endorsed the Board’s use of the broadest reasonable interpretation standard in IPR proceedings, we also take case to not read ‘reasonable’ out of the standard.”).

The Federal Circuit has indicated that the prosecution history may be an important component of intrinsic evidence in construing claims, even when a broadest reasonable construction standard applies. *Apple Inc. v. Virnetx Inc.*, IPR2014-00481, Paper No. 35 (P.T.A.B. Aug. 24, 2015) (citing *Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F. 3d 973, 977 (Fed. Cir. 2014) (“In claim construction, this court gives primacy to the language of the claims, followed by the specification. Additionally, the prosecution history, while not literally within the patent document, serves as intrinsic evidence for purposes of claim construction. This remains true in construing patent claims before the PTO.”)); *see also Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (“The PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.”) (citing *Tempo Lighting*, 742 F.3d at 977); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004).

Additionally, the Federal Circuit has found it reasonable to infer that the Patent Office would not have issued an invalid patent—particularly in cases involving prior art that the Patent Office expressly considered during original examination. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1327 (Fed. Cir. 2005)

("[W]e have looked to whether it is reasonable to infer that the PTO would not have issued an invalid patent, and that the ambiguity in the claim language should therefore be resolved in a manner that would preserve the patent's validity."). Under *Phillips* and Supreme Court jurisprudence, an issued patent is entitled to an interpretation that preserves its validity: "In such circumstances, if the claim were fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention, rather than to adopt a construction fatal to the grant." *Smith v. Snow*, 294 U.S. 1, 14 (1935).

## V. CLAIM CONSTRUCTION

### A. The Certificate of Correction Obviates the Need to Construe "Component Earner"

Petitioners assert that "independent claim 1 contains a typographical error." Pet. at 9. Particularly, Petitioners point to claim 1 as originally issued which recites "component *earner*." Ex. 1001, 13:8-11 (emphasis added). They then request that this phrase should be construed as "component carrier." Pet. at 9.

This term does not require construction, as the issue presented by Petitioners is obviated by the Certificate of Correction issued from the United States Patent and Trademark Office on February 10, 2015. *See* '472 patent File History, Ex. 1002 at page 5 ("Column 13; Line 8, Claim 1, change "component earner" to --component carrier--.").

**B. “aperiodic channel information” and “channel information”**

Petitioners appear to seek a distinction between the terms “aperiodic channel information” and “channel information,” as used in independent claims 1 and 28. Pet. at 9. However, Petitioners acknowledge that even if the terms are “coextensive” that it will not affect the arguments in the Petition. For purposes of this Preliminary Response, CCE posits that constructions are not necessary for the terms “aperiodic channel information” and “channel information.”

In the event the Board determines that a construction is necessary, however, Petitioners’ proposed construction is incorrect. Petitioners contend that “the claimed ‘aperiodic channel information’ is a subset of the claimed ‘channel information.’” Pet. at 9. But Petitioners cite to nothing in the patent at all to support this proposed construction. *Id.*

Contrary to Petitioners’ proposed construction, the difference between “channel information” and “aperiodic channel information” is the *timing* of when the channel information is sent. “Aperiodic channel information” is not sent periodically. This much is apparent from the plain meaning of “aperiodic.” The specification confirms that “aperiodic channel information” is “channel information” that is not sent periodically, but instead is sent only upon a trigger or the occurrence of a specified condition (or set of conditions). *See, e.g.* Ex. 1001, ’472 Patent at 3:4-19 (“[I]n contrast to a periodic CSI report, an aperiodic CSI report is sent by the UE when it is triggered to do so.”). *See also, e.g.,* ’472 Patent at 2:28-37; 3:35-40; 3:61-63; 4:58-61; 5:22-24; 5:34-37; and 6:33-36.

The patent describes “channel information” to include, without limitation, “channel quality indicators (CQI), Precoding Matrix Indicators (PMI), Rank Indicators (RI) and/or channel frequency or impulse response and/or channel covariance matrix.” Ex. 1001, ’427 Patent at 2:4-8. The specification provides no indication that “aperiodic channel information” consists of some subset of the channel information, and Petitioners cite nothing in support.<sup>3</sup> Instead, the specification discloses that when a base station makes a request for “aperiodic channel information,” in response the UE will generate “channel information.” *See, e.g., id.* at 3:47-63. The specification frequently uses “channel information” and “aperiodic channel information” interchangeably within the context of embodiments where the UE sends channel information only in response to a trigger or condition. *See, e.g. id.* at 3:45-4:55 and 5:25-29.

Petitioners cite nothing to indicate which types of “channel information” would qualify as “aperiodic channel information” or which would not under their proposed construction. Their proposed construction is inconsistent with the plain

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<sup>3</sup> In fact, Petitioners’ “alternative” construction is that “channel information” and “aperiodic channel information” should be construed as “coextensive.” But this proposed construction would eliminate the word “aperiodic” from the claims. The correct construction is that “aperiodic channel information” is “channel information” that is not sent periodically. No claim construction is required to give the claim term this plain and ordinary meaning.

meaning of “aperiodic” channel information, and it has no support in the patent specification. For this reason, it is not a “reasonable” construction. *See, e.g. TriVascular, Inc. v. Samuels*, 812 F. 3d 1056, 1062 (Fed. Cir. 2016). (“Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” Petitioners have not provided any reason this claim term should be construed at all.

**C. “channel information for the at least one of the other component carriers”**

Petitioners’ third claim construction argument seeks a finding that the claim term “channel information for the at least one of the other component carriers” includes at least “wideband channel information.” *See* Pet. at 11. Patent Owner does not dispute that “wideband channel information” as that term is used in Claim 11 would constitute “channel information for the at least one of the other component carriers” in Claim 10. Thus, Patent Owner does not dispute Petitioners’ proposed claim construction, so long as it is made clear that “wideband channel information” is not a requirement or limitation for Claim 10 – *i.e.* that other types of channel information (apart from “wideband channel information”) could also meet the requirements of Claim 10. *See, e.g. Leibel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) (“the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim”); *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225,

1233 (Fed. Cir. 2001). Under the doctrine of claim differentiation, it would be error to read the limitation from a dependent claim into the requirements of a claim from which it depends. *See Leibel-Flarsheim*, 358 F.3d at 910 (where “the limitation that is sought to be ‘read into’ an [earlier] claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest”); *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302-03 (Fed. Cir. 2003).

## **VI. LEVEL OF ORDINARY SKILL IN THE ART**

Petitioners assert that “an ordinary artisan is one having a Bachelor of Science or Bachelor of Engineering degree in Electrical Engineering or Computer Engineering from an institution accredited by the Accreditation Board for Engineering and Technology (ABET) or an equivalent accrediting organization and five years of work experience in wireless systems, data networking, or signal processing.” Pet. at 11-12. Alternatively, Petitioners, suggest this person would have been “one having a Master of Science or Master of Engineering degree in Electrical or Computer Engineering from an equivalently accredited institution and two years of similar work experience.” Pet. at 12. For the purposes of this Preliminary Response only, CCE does not dispute either characterization of the level of skill required for a person of ordinary skill in the art.

## **VII. ARGUMENTS**

Petitioners fail to demonstrate that at least claims 10 and 11 of the '472 patent are unpatentable over Seo 513 cited in the Petition's single Ground because they

have not shown that Seo 513 discloses each and every element of these claims. For the reasons discussed herein, the Petition should be denied as to claims 10 and 11.

**A. Petitioners Have Not Shown that Williams Is A Qualified Expert**

Petitioners present expert testimony from Tim A. Williams, Ph.D. *See* Exhibit 1003. Dr. Williams' declaration and *curriculum vitae* do not demonstrate that he is qualified to offer expert testimony for purposes of the '472 patent or this IPR. While Dr. Williams has experience in telecommunications, there is no indication that he has any direct experience with 3GPP or the standards for LTE or LTE-Advanced. Indeed, even according to his own declaration, his "professional industry experience" is the work he did in the 1980s relating to GSM, CDMA, and TDMA voice codecs and modems for one company (Motorola). *See* Exhibit 1003 at ¶ 5, *see also* Williams CV, attachment A, at p. 4. He also states that he has held numerous executive and board members positions for various companies that developed or provided "2-way paging services," "messaging solutions," and "high speed networking ICs." Ex. 1003 at ¶ 6.

Dr. Williams does not attempt to explain how his work with 2-way paging, messaging solutions and/or GSM/CDMA/TDMA voice codecs and modems (2G and 3G communication networks) makes him an expert with respect to LTE, LTE-Advanced, or carrier aggregation as it is implemented in LTE or discussed in the '472 patent. Indeed, his actual experience has nothing to do with LTE or LTE-Advanced at all.

LTE and other “4G” networks utilize OFDMA (orthogonal frequency division multiple access) as the digital modulation scheme. This represents a fundamental shift in the basic technological underpinnings of LTE systems as compared prior 2G and 3G communication networks. OFDMA stands in stark contrast to CDMA – they are entirely different modulation techniques, and required an entirely new set of specifications for implementation. Dr. Williams makes no attempt to show how his professional industry experience is relevant to the 4G LTE technologies at issue in this proceeding.

Under the Federal Rules of Evidence, a person may offer expert opinion testimony only if that person “is qualified as an expert by knowledge, skill experience, training or education. . . .” Fed. R. Evid. 702. *See also* 37 C.F.R. §42.62(a) (“Except as otherwise provided in this subpart, the Federal Rules of Evidence shall apply to a proceeding.”).

Petitioner bears the burden of proof to establish Dr. Williams’ qualifications to provide expert testimony in this case. *See* Fed. R. Evid. 702. *See also Bourjaily v. United States*, 483 U.S. 171, 175 (1987) (burden to establish admissibility of evidence falls on the party proffering the evidence). In this case, Petitioner has not carried its burden to establish Dr. Williams’ qualifications as an expert. Neither the Petition, nor Dr. Williams’ declaration provide any argument or reason that Dr. Williams’ GSM, TDMA, and CDMA experience, many years prior to LTE, qualify him as an expert on LTE technology or the implementation of carrier aggregation within LTE. For this reason, Dr. Williams’ testimony is inadmissible and should not

be considered by the Board. *See Sundance, Inc. v. Demonte Fabricating, Ltd.*, 550 F.3d 1356, 1363 (Fed. Cir. 2009) (“We hold that it is an abuse of discretion to permit a witness to testify as an expert on the issues of noninfringement or invalidity unless that witness is qualified as an expert in the pertinent art.”).

**B. Petitioners Have Not Shown that All Elements of Claim 10 Are Disclosed in Seo 513**

Petitioners carry the burden to demonstrate that the alleged combination or modification of the prior art would have resulted in or disclosed the *complete* invention – *i.e.* each and every element of the challenged claim. *See CFMT, Inc. v. YieldUp Int’l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (“[O]bviousness requires a suggestion of all limitations in a claim.”) (citing *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974)); *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993) (reversing obviousness rejection where prior art did not teach or suggest all claim limitations). Petitioners fail to demonstrate that each and every element of claim 10 in the ’472 patent is present or disclosed in Seo 513, the only alleged prior art reference relied upon, in the Petition’s sole Ground.

Claim 10 depends from claim 1. Relevant to this Preliminary Response is (1) claim 1’s requirement of an apparatus “configured to receive a request for providing aperiodic channel information *with respect to a selected downlink component carrier of a plurality of component carriers*” and (2) claim 10’s recitation that the apparatus “is configured to provide *channel information for at least one of the other component carriers of the plurality of component carriers other than the selected downlink*

component carrier.” Read together, these limitations require an apparatus configured to receive a request for providing aperiodic channel information (1) with respect to a selected downlink component carrier and (2) with respect to one or more other component carriers, excluding the selected component carrier. As discussed below, Seo 513 does not render obvious the aforementioned requirement of claim 10 because Petitioners have failed to show the set of requirements from independent claim 1 and dependent claim 10, namely the apparatus being configured to provide channel information for other component carriers excluding the selected component carrier.

According to Petitioners’ own characterization of Seo 513, the reference generates and transmits a report on “[1] a wideband CQI for a total system frequency band **or** [2] a frequency band set by [a] higher layer.” Pet. at 16, citing Ex. 1004 11:19-12:35 (emphasis added). Petitioners’ reliance on Seo 513 does not show, teach or suggest a UE that would generate a report for a selected downlink component carrier and a report for one or more other component carriers, excluding the selected component carrier as required by claim 10. Indeed, Seo 513’s “total system frequency” would include the selected component carrier. Likewise, the “frequency band set by [a] higher layer” would be a selected component carrier. Seo 513’s use of the conjunction “or” shows that the system of Seo 513 is capable of reporting CQI in two different modes; however, neither of these modes, alone or in combination, satisfy the plain and ordinary meaning of claim 10, as Seo 513 would either (1) send a report for a total system frequency (including the selected component carrier); (2)

send a report for a frequency band set by a higher layer (the selected component carrier); or (3) send a report for a frequency band set by a higher layer (a selected component carrier) and the total system frequency (which would *include* the selected component carrier). This is in contradiction to claim 10's requirement that the apparatus be configured to provide channel information for other component carriers *excluding the selected component carrier*.

Further, the Petition's arguments with respect to claim 10 are limited to the claim chart found on pp. 27-33. Petitioners do not provide any discussion in any of their charts beyond a conclusory statement that "Seo discloses" the particular claim elements. All of the claim charts at pp. 18-39 of the Petition are devoid of any citation or reference to Dr. Williams' declaration explaining how Seo 513 may disclose, teach, or suggest each element of any of the claims. The Petition at pp. 13-18 provides a generic statement of the alleged disclosure in Seo 513; however, this discussion is focused on the alleged embodiment in Seo 513 of transmitting a report for a component carrier based upon which component carrier carried the request for such a report.

Additionally, Dr. Williams' declaration (Exhibit 1003) is of little help in resolving these deficiencies since it merely recites the much of the same language

used in the Petition and includes the same claim charts<sup>4</sup>. However, a petitioner has not met its burden of proof where its proof rests solely on conclusory expert testimony. *See, e.g., Unified Patents v. Custom Media*, IPR2015-00516, Paper 9 (PTAB June 15, 2015). In an attempt to shore up the deficiencies in Petitioners' analyses, Dr. Williams provides the following conclusory statement, which is copied into the Petition:

Therefore, to the extent that Seo does not explicitly disclose certain features of aperiodic channel quality indication for carrier aggregated networks together in a single embodiment (as may be required to find anticipation), it would have been obvious to one of ordinary skill in the art to combine or substitute those known features and techniques with one another, according to their known methods and functions, to yield the predictable result of establishing and sending channel

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<sup>4</sup> Further demonstrating the lack of analyses in the claim charts, Petitioners' claim charts and Dr. William's claim charts include the same recitation of "component *earner*" as found in claim 1 in their statement of what Seo 513 discloses rather than using the corrected language of "component carrier" Petitioners seek to construe at p. 9 of the Petition.

information with respect to the determined selected  
downlink component carrier.

Ex. 1003 ¶ 69; *also* Pet. at 17. Dr. Williams provides no facts or data whatsoever to support this conclusory statement. Thus, his opinion “is entitled to little or no weight.” 37 C.F.R. §42.65(a).

Moreover, the Petition is defective, and fails to meet Petitioners’ burden of proof, because it does not provide any discussion of the differences between the prior art and the challenged claims. Petitioners’ sole alleged ground of invalidity is based upon obviousness under 35 U.S.C. §103. The Board’s obviousness analysis *must* take into consideration the differences between the prior art and the claimed invention. *See KSR Int’l co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 at 17-18 (1966)). Indeed, typically the obviousness analysis *begins* with an assessment of this difference, so it can be determined whether a POSITA would have been motivated to modify and combine the prior art to overcome the differences.

The Petition never once discusses the differences between the prior art and the claims. As a result, the Petition must be denied because the Board cannot make a meaningful determination (based on the Petition and supporting evidence) of whether a POSITA would have been motivated to combine or modify the prior art in the way Petitioners allege. *See, e.g., Moses Lake Indus., Inc. v. Enthone, Inc.*, IPR2014-00243, Paper 6 at 18 (P.T.A.B. June 18, 2014) (faulting petitioner for failing to “explain[] any differences between the claimed subject matter and the prior

art”); *Moses Lake Indus., Inc. v. Enthone, Inc.*, IPR2014-00246, Paper 6 at 17 (P.T.A.B. June 18, 2014) (same); *eBay, Inc. v. Paid, Inc.*, CBM2014-00125, Paper 15 at 21 (P.T.A.B. Sept. 30, 2014) (concluding similarly even where petitioner’s claim charts were “detailed”).

Petitioners have failed to show that Seo 513 renders claim 10 obvious, and the Board should deny the Petition with respect to at least this claim.

**C. Petitioners Have Not Shown that All Elements of Claim 11 Are Disclosed in Seo 513.**

Claim 11 of the ’472 patent is dependent from claim 10. For the reasons stated above with respect to claim 10, Petitioners have failed to satisfy their burden of proof with respect to claim 11. As such, the Board should deny the Petition with respect to claim 11 in the lone Ground presented.

**VIII. CONCLUSION**

For the foregoing reasons, the Petition fails to show that there is a reasonable likelihood that Petitioners would prevail with respect to at least claims 10 and 11 of the ’472 patent. *See* 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(b). As such, CCE respectfully requests that the Petition be denied.

Dated: November 16, 2016

Respectfully Submitted,

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**CERTIFICATE OF COMPLIANCE WITH WORD COUNT**

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Preliminary Response complies with the type-volume limits of 37 C.F.R. § 42.24(b)(1) because it contains 5,702 words, excluding the parts of this Preliminary Response that are exempted by 37 C.F.R. § 42.24(a)(1), according to the word processing system used to prepare this Preliminary Response.

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**CERTIFICATE OF SERVICE**

I hereby certify that on this 16th day of November 2016, a copy of Patent Owner Cellular Communication Equipment LLC's Preliminary Response to Petition for *Inter Partes* Review has been served in its entirety via email on the following:

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