**IN THE UNITED STATES DISTRICT COURT**
**FOR THE EASTERN DISTRICT OF TEXAS**
**MARSHALL DIVISION**

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|---|---|---|
| COBBLESTONE WIRELESS, LLC,<br>Plaintiff,<br>v.<br>T-MOBILE USA, INC.<br>Defendant,<br>NOKIA OF AMERICA CORPORATION, ERICSSON, INC.<br>Intervenors. | §<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§ | CASE NO. 2:22-cv-00477-JRG-RSP<br>(Lead Case)<br><br>JURY TRIAL DEMANDED |
| COBBLESTONE WIRELESS, LLC,<br>Plaintiff,<br>v.<br>AT&T SERVICES INC.; AT&T MOBILITY LLC; AT&T CORP.,<br>Defendants,<br>NOKIA OF AMERICA CORPORATION, ERICSSON, INC.<br>Intervenors. | §<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§ | CASE NO. 2:22-cv-00474-JRG-RSP<br>(Member Case)<br><br>JURY TRIAL DEMANDED |
| COBBLESTONE WIRELESS, LLC,<br>Plaintiff,<br>v.<br>CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS,<br>Defendant,<br>NOKIA OF AMERICA CORPORATION, ERICSSON, INC.<br>Intervenors. | §<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§<br>§ | CASE NO. 2:22-cv-00478-JRG-RSP<br>(Member Case)<br><br>JURY TRIAL DEMANDED |

**DEFENDANTS' AND INTERVENORS' PRELIMINARY INVALIDITY CONTENTIONS FOR U.S. PATENT NO. 9,094,888**

Pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, Defendants AT&T Corp., AT&T Mobility LLC, AT&T Services Inc., (collectively, "AT&T" or "Defendant"), Cellco Partnership d/b/a Verizon Wireless (collectively, "Verizon" or "Defendant"), T-Mobile USA, Inc. ("T-Mobile" or "Defendant"), Intervenors Nokia of America Corporation ("Nokia" or "Intervenor") and Ericsson Inc. ("Ericsson" or "Intervenor"), hereby provide their Preliminary Invalidity Contentions with respect to the claims identified by Plaintiff Cobblestone Wireless, LLC ("Plaintiff") in its previously served Infringement Contentions in the above captioned matters ("Infringement Contentions").

## I. PRELIMINARY STATEMENT AND RESERVATION OF RIGHTS

### A. ASSERTED CLAIMS

According to the Infringement Contentions regarding U.S. Patent No. 9,094,888 (the "'888 Patent" or the "Asserted Patent"), Plaintiff asserts the following claims, and priority date in its Infringement Contentions (collectively, "Asserted Claims").

| Asserted Patent | Asserted Claims | Asserted Priority Date |
|---|---|---|
| U.S. Patent No. 9,094,888 (the 888 Patent) | 9, 10, 12, 20, 21, and 23 | April 29, 2011 |

Defendants and Intervenors contend that each of the Asserted Claims is invalid under at least one or more of 35 U.S.C. §§ 102, 013, or 112.[1] Pursuant to the Patent Rules, Defendants and Intervenors do not provide any contentions regarding any claims not asserted by Plaintiff. To the extent that the Court permits Plaintiff to assert additional claims against Defendants and/or Intervenors in the future, Defendants and Intervenors reserve all rights to amend or supplement these Preliminary Invalidity Contentions or to otherwise disclose new or supplemental invalidity

[1] Intervenors' contentions are only for those claims of the patents specifically asserted against its equipment.

contentions regarding such claims. Furthermore, because discovery is ongoing,[2] Defendants and Intervenors reserve the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should discovery yield additional information or references. Defendants and Intervenors further reserve the right to amend these contentions in response to any claim construction rulings, as permitted by the Patent Rules or with permission of the Court.

The Infringement Contentions are deficient in multiple respects and do not provide Defendants and Intervenors with sufficient information to understand the specific accused features and components and the alleged factual and evidentiary bases for Plaintiff's infringement allegations. Among other things, the Infringement Contentions lack the specificity required by P. R. 3-1, fail to properly identify accused instrumentalities, and fail to explain adequately Plaintiff's infringement theories for numerous claim elements. Plaintiff has prejudiced Defendants' and Intervenors' ability to understand, for purposes of preparing these Preliminary Invalidity Contentions, what Plaintiff alleges to be the scope of the Asserted Claims. If Plaintiff modifies any assertion or contention in its Infringement Contentions, or presents any new assertion or contention relevant to these Preliminary Invalidity Contentions to the extent allowed by the Patent Rules or the Court, Defendants and Intervenors reserve the right to supplement or otherwise amend these initial Invalidity Contentions.

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[2] Defendants' and Intervenors' ongoing efforts include but are not limited to: serving subpoenas on prior artists and inventors regarding prior art, seeking additional information related to the references and systems disclosed in these Preliminary Invalidity Contentions, and seeking additional information related to available prior art systems, as well as Plaintiff's Infringement Contentions and the products accused of infringing therein. In addition, Defendants and Intervenors have not yet had the benefit of taking the deposition of any of the named inventors or those that worked with the named inventors, or of the named inventors, authors, and entities listed on any references or systems identified in these Preliminary Invalidity Contentions. Further, should Plaintiff or any third party identify or produce any further prior art, Defendants and Intervenors reserve the right to review and supplement these Preliminary Invalidity Contentions with any such art.

## B. CLAIM CONSTRUCTION

Because the Court has not yet construed any terms of any claim of the Asserted Patent, Defendants' and Intervenors' Preliminary Invalidity Contentions are based on (1) Defendants' and Intervenors' present understanding of the Asserted Claims, and (2) the claim constructions Plaintiff appears to be proposing based on the Infringement Contentions, all without regard to whether Defendants and Intervenors agree with Plaintiff's apparent or expressed claim constructions. Defendants and Intervenors reserve the right to supplement or otherwise amend these Preliminary Invalidity Contentions in response to any proposed claim constructions or alleged supporting evidence offered by Plaintiff, any report from any expert witness for Plaintiff regarding claim construction issues, any claim construction briefing filed by Plaintiff, and any position taken by Plaintiff concerning claim construction, infringement, or invalidity.

Defendants and Intervenors take no position on any matter of claim construction in these Preliminary Invalidity Contentions. If Defendants' and Intervenors' apparent claim constructions herein are consistent with any explicit, apparent, or implied claim constructions in the Infringement Contentions, no inference is intended and no inference should be drawn that Defendants and Intervenors agree with any of Plaintiff's claim constructions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding and/or applying the cited prior art. Defendants and Intervenors expressly reserve the right (1) to propose any claim construction Defendants and Intervenors consider appropriate, (2) to contest any claim construction proposed by Plaintiff that Defendants and Intervenors consider inappropriate or inaccurate, and/or (3) to take positions with respect to claim construction issues that are inconsistent with, or even contradictory to, claim construction positions expressed or implied in these Preliminary Invalidity Contentions.

Prior art not included in these Preliminary Invalidity Contentions, whether now known to Defendants and Intervenors, might become relevant depending on the claim constructions proposed by Defendants and Intervenors and/or the Court's claim construction rulings. Defendants

and Intervenors reserve all rights to supplement or modify the positions and information in these Preliminary Invalidity Contentions, including without limitation the prior art and grounds of invalidity set forth herein, pursuant to P.R. 3-6 after the Court has construed the asserted claims.

### C. ONGOING DISCOVERY AND SUPPLEMENTATION

Defendants' and Intervenors' investigation, including its investigation of prior art and grounds for invalidity, is ongoing. Furthermore, Defendants' and Intervenors' invalidity positions will be the subject of expert testimony. Defendants and Intervenors base these Preliminary Invalidity Contentions on their current knowledge and understanding of the Asserted Claims, Plaintiff's Infringement Contentions, the prior art, and other facts and information available as of the date of these contentions. Defendants and Intervenors reserve the right to supplement these Preliminary Invalidity Contentions, including, without limitation, by adding additional prior art and grounds of invalidity in accordance with the Federal Rules of Civil Procedure, the Local Rules, the local Patent Rules, the Docket Control Order, any Order issued by this Court, or otherwise.

### D. PRIORITY DATE OF THE ASSERTED PATENT

Plaintiff's Infringement Contentions contain allegations regarding the priority dates to which Plaintiff alleges it is entitled for each of the Asserted Claims. *See* e.g., March 13, 2023 Infringement Contentions in 2:22-cv-00474-JRG-RSP at 4. Defendants and Intervenors do not agree that Plaintiff is entitled to the alleged priority dates for each of the Asserted Claims.

Any reference to an "asserted priority date" in these Preliminary Invalidity Contentions refers to the priority dates identified in Plaintiff's Infringement Contentions. Reference to a "priority date" or an "asserted priority date" should not be construed to mean that Defendants and Intervenors agree that the Asserted Patent is in fact entitled to such priority date, or that Plaintiff has provided proper notice as to its contentions for priority dates. To the extent Plaintiff alleges that any prior art relied on in these Preliminary Invalidity Contentions does not actually qualify as prior art to an Asserted Patent, Defendants and Intervenors reserve the right to rebut those

allegations (*e.g.*, by demonstrating an earlier critical date for the challenged prior art and/or a later priority date for a particular Asserted Patent and/or Asserted Claim).[3] Likewise, to the extent Plaintiff successfully establishes an invention date before any of the prior-art references relied on by Defendants and Intervenors, then those references serve as evidence of secondary considerations of obviousness, particularly, contemporaneous invention by others.

## E. PRIOR ART IDENTIFICATION AND CITATIONS THERETO

In these Preliminary Invalidity Contentions, Defendants and Intervenors identify specific portions of prior art references that disclose the elements of each of the Asserted Claims. While Defendants and Intervenors have identified exemplary prior art references for each element, they do not necessarily identify every disclosure of the same element in each prior art reference. A person of ordinary skill in the art would read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field and would rely upon other information including other publications and general scientific or engineering knowledge. Defendants and Intervenors therefore reserve the right to rely upon other unidentified portions of the prior art references and on other publications and prior art products and expert testimony to provide context and to aid understanding and interpretation of the identified portions of the prior art.

Defendants and Intervenors also reserve the right to rely upon (1) other portions of the cited prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including on the basis of modifying or combining certain cited references; (2) admissions relating to prior art in the Asserted Patent or related patents, the prosecution history of the Asserted Patent

[3] Defendants and Intervenors reserve the right to rely on additional documents and evidence to rebut any efforts by Plaintiff to allege any reference was not publicly available or otherwise available as prior art.

or related patents, or other admissions obtained during discovery; and (3) foreign counterparts of any U.S. patents identified in Defendants' Preliminary Invalidity Contentions.

Where Defendants and Intervenors identify a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in the remainder of the prior art reference (e.g., if a patent reference, in the specification and prosecution history). Similarly, where an identified portion of text refers to a figure or other material, the identification of the text should be understood to include the referenced figure or other material.

### F. INVALIDITY, UNENFORCEABILITY AND/OR INELIGIBILITY BASED ON NON-REQUIRED DISCLOSURE(S)

Defendants and Intervenors reserve the right to prove the invalidity, unenforceability and/or ineligibility of one or more of each of the Asserted Claims on bases other than those required by P.R. 3-3 to be disclosed in these disclosures.

### G. INVALIDITY UNDER SECTION 102(F) PRIOR ART

Defendants and Intervenors reserve the right to assert that the Asserted Claims of the Asserted Patent are invalid under 35 U.S.C. § 102(f) in the event they obtain evidence that the applicants named on the Asserted Patent or related patents, did not themselves "invent" the subject matter claimed. Should Defendants and Intervenors obtain such evidence, they will provide the name of the person(s) from whom and the circumstances under which the claimed subject matter or any part of it was derived.

### H. INVALIDITY UNDER SECTION 102(G) PRIOR ART

The '888 Patent is likewise invalid under 35 U.S.C. § 102(g) because the claims of the '888 Patent were made in this this country by another inventor who had not abandoned, suppressed, or concealed it. 35 U.S.C. § 102(g). For example, under § 102(g), claims 9, 10, 12, 20, 21, and 23 are invalid because Nokia made at least the Nokia Flexi Multiradio 10 Base Station before the priority

date of the ’888 patent. Likewise, Ericsson made at least the Ericsson RBS 6000 series before the priority date of the ’888 patent. As will be shown by the exemplary evidence listed in Exhibit B-07, each and every element of those asserted claims is invalid under § 102(g).

### I. NO PATENTABLE WEIGHT

Defendants and Intervenors reserve the right to argue that various portions of each of the Asserted Claims, such as an intended use or result, non-functional descriptive material, and certain preamble language, are entitled to no patentable weight. Mapping of a portion of an Asserted Claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

## II. INVALIDITY CONTENTIONS

As explained herein and in Exhibits B-01 through B-08, and Appendix B, Defendants and Intervenors contend that each of the Asserted Claims of the Asserted Patent are invalid under 35 U.S.C. §§ 102, 103, and/or 112.

### A. P.R. 3-3(A) – IDENTIFICATION OF PRIOR ART

Pursuant to P. R. 3-3(a), and subject to Defendants’ and Intervenors’ reservation of rights as stated herein, Defendants and Intervenors identify the prior art that anticipates or renders obvious the Asserted Claims of the Asserted Patent in the tables set forth below.[4] On information and belief, each listed reference qualifies as prior art to the Asserted Patent.[5]

To the extent that any of the following are prior art, Defendants and Intervenors reserve the right to rely upon foreign counterparts of the U.S. patents identified herein; U.S. counterparts

[4] Defendants and Intervenors also hereby identify any systems or products that embody the technology described in any patent or publication identified in these Preliminary Invalidity Contentions. Defendants and Intervenors reserve the right to rely on any documents or other evidence regarding any such systems.

[5] Defendants and Intervenors may rely on any document produced with the prefix JD-COBB to explain the background and/or state of the art to the Asserted Patent.

of foreign patents and foreign patent applications identified herein; and U.S. and foreign patents and patent applications corresponding to articles and publications identified herein. Defendants and Intervenors also reserve the right to rely upon parent or ancestor patents or patent applications from which any of the patents or patent applications identified herein claim priority to as continuation, divisional, or continuation-in-part applications.

*1. 888 Patent*

a. Identification of Prior Art Patents

| Patent/Publication No. | Country of Origin | Date of Issue/Publication |
|---|---|---|
| U.S. Patent No. 6,580,910 to Mazur et al. ("Mazur") | U.S. | June 17, 2003 |
| U.S. Patent No. 7,336,953 to Kim et al. ("Kim") | U.S. | February 26, 2008 |
| U.S. Patent Publication No. 2004/0176094 ("Kim-094") | U.S. | September 9, 2004 |
| U.S. Patent No. 7,657,288 to Chitrapu et al. ("Chitrapu") | U.S. | February 2, 2010 |
| U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") | U.S. | February 2, 2010 |
| U.S. Patent No. 8,489,093 to Souissi et al. ("Souissi") | U.S. | July 16, 2013 |
| U.S. Patent No. 9,002,362 to Marce et al. ("Marce") | U.S. | April 7, 2015 |
| U.S. Patent No. 9,113,379 to Jung et al. ("Jung") | U.S. | August 18, 2015 |
| U.S. Patent No. 9,426,712 to Hagerman et al. ("Hagerman") | U.S. | August 23, 2016 |
| U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") | U.S. | December 3, 2009 |
| U.S. Patent Application Publication No. 2002/0137538 to Chen et al. ("Chen") | U.S. | September 26, 2002 |
| U.S. Patent Application Publication No. 2005/0070285 to Goransson ("Goransson") | U.S. | March 31, 2005 |
| U.S. Patent Application Publication No. 2008/0181180 to Karaoguz ("Karaoguz") | U.S. | July 31, 2008 |

| Patent/Publication No. | Country of Origin | Date of Issue/Publication |
|---|---|---|
| Chinese Patent No. CN101217819 to Li et al. ("Li") | China | July 9, 2008 |
| U.S. Patent Publication No. 2005/0073977 ("Vanghi-977") | U.S. | April 7, 2005 |
| U.S. Patent Publication No. US20110206009A1 ("Attar") | U.S. | Aug. 25, 2011 |
| U.S. Patent Publication No. US20100099416A1 to Kazmi et al. ("Kazmi") | U.S. | April 22, 2010 |

b. Identification Of Prior Art Publications

| Title, Author(s), and Publisher | Date of Publication |
|---|---|
| *Adaptive Handoff Algorithm for Multi-beam GEO Mobile Satellite System* by Li Song, Ai-Jun Liu, and Yi-Fei Ma; 2008 IEEE International Conference on Communications | May 2008 |
| *Dynamic Resource Allocation Schemes During Handoff for Mobile Multimedia Wireless Networks,* by Parameswaran Ramanathan, Krishna M. Sivalingam, Prathima Agrawal, and Shalinee Kishore; IEEE Journal on Selected Areas in Communications | July 1999 |
| *Wireless Communications*, Theodore S. Rappaport (2002) ("Rappaport"). | 2002 |
| LTE: The UMTS Long Term Evolution From Theory to Practice by Sesia et al. ("Sesia") | July 22, 2011 |
| LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)") | 2009 |
| UMTS Networks Architecture, Mobility, and Services by Kaaranen et al. ("Kaaranen") | 2001 |
| WCDMA for UMTS by Holma and Toskala ("Holma & Toskala (2004)") | 2004 |
| LTE for UMTS: Evolution to LTE-Advanced Second Edition ("Holma & Toskala (2011)" | March 2011 |

| Title, Author(s), and Publisher | Date of Publication |
|---|---|
| 4G LTE/LTE-Advanced for Mobile Broadband by Dahlman and Parkvall ("Dahlman and Parkvall") | March 20, 2011 |
| LTE-Advanced: A Practical Systems Approach to Understanding 3GPP LTE Releases 10 and 11 Radio Access technologies by Ahmadi ("Ahmadi") | October 13, 2010 |
| 3GPP TS 36.300 v10.3.0 | April 5, 2011 |
| 3GPP TS 36.300 v10.2.0 | December 21, 2010 |
| 3GPP TS 23.401 v10.3.0 | March 28, 2011 |
| 3GPP TS 23.401 v10.2.0 | December 20, 2010 |
| 3GPP TS 36.331 v10.1.0 | March 30, 2011 |
| 3GPP TS 36.331 v.10.0.0 | December 21, 2010 |
| 3GPP TS 36.211 v.10.1.0 | March 30, 2011 |
| 3GPP TS 36.211 v10.0.0 | December 21, 2010 |
| 3GPP TS 36.213 v10.1.0 | March 30, 2011 |
| 3GPP TS 36.213 v10.0.0 | December 22, 2010 |
| 3GPP TS 36.214 v10.1.0 | March 30, 2011 |
| 3GPP TS 36.214 v10.0.0 | December 22, 2010 |
| 3GPP TS 36.321 v10.1.0 | April 6, 2011 |
| 3GPP TS 36.321 v10.0.0 | December 21, 2010 |
| 3GPP TS 36.306 v10.1.0 | April 5, 2011 |
| 3GPP TS 36.306 v10.0.0 | December 21, 2010 |
| 3GPP TR 21.900 v10.0.0 | April 4, 2011 |

| Title, Author(s), and Publisher | Date of Publication |
|---|---|
| 3GPP TR 21.905 v10.3.0 | March 28, 2011 |
| 3GPP TS 36.214 v10.1.0 | March 30, 2011 |
| 3GPP TS 36.302 v10.1.0 | March 28, 2011 |
| 3GPP TS 36.321 v10.1.0 | April 6, 2011 |
| 3GPP TS 36.413 v10.1.0 | April 5, 2011 |
| 3GPP TS 24.301 v10.2.0 | April 3, 2011 |
| 3GPP TS 25.413 v10.1.0 | April 4, 2011 |

c. Identification Of Prior Art Sales/Public Uses

| Item Offered for Sale and/or Publicly Used | Date of Offer/Public Use | Person or Entity Who Made and Received Offer, Made Public Use, or Made Information Known |
|---|---|---|
| Nokia base station equipment | | Nokia |
| Ericsson base station equipment | | Ericsson |
| All systems or products that embody the technology described in any patent or publication identified in these Preliminary Invalidity Contentions. | | |

## B. P.R. 3-3(B) – ANTICIPATION AND OBVIOUSNESS

Pursuant to P.R. 3-3 (b), and subject to Defendants' and Intervenors' reservation of rights, Defendants and Intervenors attach claim charts hereto that are directed to the prior art references that anticipate each of the Asserted Claims of each of the Asserted Patent under 35 U.S.C. §§

102(a), (b), (e), and/or (g), either expressly or inherently, and/or the prior art references that, in the alternative, would have rendered the Asserted Claims obvious under 35 U.S.C. § 103. *See* Exs. B-01 through B-08 and Appendix B. Some claim charts also contain explanations about the motivation to combine the references. Any combinations contained or referenced in Defendants' and Intervenors' claim charts are exemplary. Any prior art reference cited herein may be combined with any other reference to demonstrate the invalidity of any of the Asserted Claims, as set forth below and in Appendix B.

To the extent any claim limitation is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), as any other claim limitation, the citations to prior art references for each of those claim limitations in Defendants' and Intervenors' claim charts are incorporated by reference with respect to each other.

Defendants' and Intervenors' claim charts provide exemplary citations to the prior art references that teach or suggest every element of each of the Asserted Claims of the Asserted Patent. To the extent that an element of an Asserted Claim is not shown in a chart, the Asserted Claims would have been obvious based on a combination of one or more other prior art references, as set forth below and in Appendix B.

Much of the art cited in these Preliminary Invalidity Contentions reflects common knowledge and the state of the art at the time of the earliest filing date of the Asserted Patent. Defendants and Intervenors may rely on additional citations, references, expert testimony, and other material to provide context or to aid in understanding the cited portions of the references and/or cited features of the systems. Defendants and Intervenors also may rely on expert testimony explaining relevant portions of references, relevant hardware or software products or systems, and other discovery regarding these subject matters. Additionally, Defendants and Intervenors may rely on other portions of any prior art reference for purposes of explaining the background and general technical subject area of the reference.

Where an individual reference is cited with respect to all elements of an Asserted Claim, Defendants contend that the reference anticipates the claim under 35 U.S.C. §§ 102(a), (b), (e),

and/or (g) and also renders obvious the claim under 35 U.S.C. § 103, both by itself in view of the knowledge of a person of ordinary skill in the art and in combination with the other cited references to the extent the reference is not found to disclose one or more claim elements. A single prior art reference, for example, can establish obviousness where the differences between the disclosures within the reference and the claimed invention would have been obvious to one of ordinary skill in the art. For example, "[c]ombining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness." *Bos. Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009). To the extent Plaintiff contends that an embodiment within a particular item of prior art does not fully disclose all limitations of a claim, Defendants and Intervenors accordingly reserve their rights to rely on other embodiments in that prior art reference, or other information, to show single reference obviousness under 35 U.S.C. § 103(a).

Where an individual reference is cited with respect to fewer than all elements of an Asserted Claim, Defendants and Intervenors contend that the reference renders obvious the claim under 35 U.S.C. § 103(a) in view of each other reference and combination of references that discloses the remaining claim element(s), as indicated in the claim charts submitted herewith. "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." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966)).

Exemplary motivations to combine references are discussed below and in some instances within the accompanying charts. Defendants and Intervenors reserve the right to rely upon any references or assertions identified herein in connection with Defendants' and Intervenors' contentions that each Asserted Claim is invalid under 35 U.S.C. § 103 and to rely upon expert testimony addressing such references and assertions. The fact that prior art is identified to anticipate the Asserted Claims presents no obstacle in also relying on that reference as a basis for invalidity based on obviousness. It is established that "a rejection for obviousness under § 103

can be based on a reference which happens to anticipate the claimed subject matter." *In re Meyer*, 599 F.2d 1026, 1031 (C.C.P.A. 1979). To the extent any cited prior art item may not fully disclose a limitation of an Asserted Claim or is alleged by Plaintiff to lack disclosure of the limitation, such limitation is present and identified in another prior art item as shown in the attached claim charts.

Many of the cited references cite or relate to additional references and/or products, services, or projects. Many of the cited references also cite software, hardware, or systems. Defendants and Intervenors might rely upon such cited additional references and/or products and copies or exemplars of such software, hardware, or systems. Defendants and Intervenors will produce or make available for inspection any such cited references, products, software, hardware, or systems that it intends to rely upon. Defendants and Intervenors may also rely upon the disclosures of the references cited and/or discussed during the prosecution of the Asserted Patent and/or the assertions presented regarding those references.

Defendants and Intervenors reserve the right to further streamline and reduce the number of anticipation or obviousness references relied upon with respect to a given Asserted Claim and to exchange or otherwise modify the specific references relied upon for anticipation and within each obviousness combination for each Asserted Claim.

### C. P.R. 3-3(C) – CLAIM CHARTS

Defendants and Intervenors attach the following claim charts pursuant to P.R. 3-3(c):

- Ex. B-01: U.S. Patent No. 9,094,888 ("'888 Patent") in view of the prior art 3GPP standards ("3GPP Standards")
- Ex. B-02: U.S. Patent No. 9,094,888 ("'888 Patent") in view of U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149")
- Ex. B-03: U.S. Patent No. 9,094,888 ("'888 Patent") in view of LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") and LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")
- Ex. B-04: U.S. Patent No. 9,094,888 ("'888 Patent") in view of U.S. Patent Publication No. 2009/0298502 ("Hagerman-502")

- Ex. B-05: U.S. Patent No. 9,094,888 ("'888 Patent") in view of U.S. Patent Publication No. 2004/0176094 ("Kim-094")
- Ex. B-06: U.S. Patent No. 9,094,888 ("'888 Patent") in view of U.S. Patent Publication No. 2005/0073977 ("Vanghi-977")
- Ex. B-07: U.S. Patent No. 9,094,888 ("'888 Patent") in view of prior art Nokia and Ericsson base station equipment
- Ex. B-08: U.S. Patent No. 9,094,888 ("'888 Patent") in view of U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi")

The attached claim charts are based, in whole or in part, on Plaintiff's asserted theories of infringement in this case, to the extent discernible from Plaintiff's Infringement Contentions. As an initial matter, all portions of each prior art reference cited in each of the attached claim charts are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Representative descriptions and supporting citations are nevertheless provided, but are merely exemplary; they do not necessarily reflect every instance where a particular claim term or claim limitation may be disclosed in or taught by the prior art reference. References to figures or drawings refer to the figures/drawings themselves, as well as to any accompanying text or text necessary to understand the figures or drawings. References to text refers to the text itself, as well as the accompanying figures or drawings that accompany the text. Defendants and Intervenors reserve the right to rely on additional, or different, portions of the prior art references, other publications and expert testimony to establish what these references would have taught one of ordinary skill in the art, or in what manner they would have motivated a particular combination of references. Moreover, in certain instances, representative documents for certain prior art systems are cited, but, again, are merely exemplary; they do not necessarily reflect or include every document relating to the prior art system that exists and that discloses or teaches a particular claim term or claim limitation. Defendants and Intervenors reserve the right to rely on any and all documents that describe or relate to prior art systems, including relying on the system itself.

Defendants and Intervenors also reserve the right to rely on the testimony of the authors, named inventors, or anyone else with knowledge of the prior art references and systems identified herein, as well as expert testimony regarding any such references or systems.

## D. OBVIOUSNESS AND MOTIVATION TO COMBINE

The primary references identified above, and as further described in Exhibits B-01 through B-08 each discloses, either expressly or inherently, every element of each of the Asserted Claims, thereby anticipating those claims. To the extent Plaintiff contends that any primary reference does not anticipate each of the Asserted Claims, it would have been obvious to combine or modify the primary references with concepts from other prior art, as explained herein and in Exhibits B-01 – B-08 and Appendix B. Each of these combinations is exemplary and representative, and the below does not constitute an exhaustive list of the possible combinations of the primary references, nor the primary references in combination with any additional references noted in Appendix B. Defendants and Intervenors reserve the right to rely on combinations outside of the below listed.

*888 Patent*

- 3GPP TS 36.300 v10.3.0 in combination with 3GPP TS 23.401 v10.3.0 and/or 3GPP TS 36.331 v10.1.0 and/or 3GPP TS 36.211 v10.1.0 and/or 3GPP TS 36.213 v10.1.0 and/or 3GPP TS 36.214 v10.1.0 and/or 3GPP TS 36.321 v10.1.0 and/or 3GPP TS 36.306 v10.1.0 (collectively"3GPP Standards")

- 3GPP Standards in combination with U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149")

- 3GPP Standards in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")

- 3GPP Standards in combination with U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149")

- 3GPP Standards in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094")

- 3GPP Standards in combination with U.S. Patent Publication No. 2009/0298502 ("Hagerman-502")

- 3GPP Standards in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977")

- U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with U.S. Patent Publication No. 2009/0298502 ("Hagerman-502")

- U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")

- U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094")

- U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977")

- U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")

- U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094")

- U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977")

- U.S. Patent Publication No. 2004/0176094 ("Kim-094") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")

- U.S. Patent Publication No. 2004/0176094 ("Kim-094") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977")

- U.S. Patent Publication No. 2004/0176094 ("Kim-094") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")

- U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and

SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)")

- U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149").
- U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with 3GPP standards ("3GPP Standards")
- U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2009/0298502 ("Hagerman-502
- U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094")
- U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977")
- Any of the above, in combination with any reference noted in Appendix B (888 Patent Obviousness Combinations)

In particular, for each limitation of each of the Asserted Claims that Plaintiff contends is not met by a particular primary reference, Defendants and Intervenors contend that the limitation (and Asserted Claim as a whole) is obvious based on a combination of that particular primary reference with (1) any other primary reference disclosing that limitation, (2) any reference identified in Appendix B as disclosing that limitation, and/or (3) the knowledge of a person of ordinary skill in the art and/or any of the references and concepts discussed herein regarding the relevant background and state of the art. The specific combinations of prior art that Defendants and Intervenors contend render the Asserted Claims obvious are readily determinable as described herein. Defendants' and Intervenors' obviousness grounds for each dependent Asserted Claim incorporate the obviousness grounds for the claim(s) from which the dependent claim depends in addition to any obviousness grounds identified in the charts for the dependent claim.

Defendants and Intervenors do not yet have the benefit of Plaintiff's positions on the prior art, including what (if any) elements it contends are missing in each prior art reference, whether

Plaintiff agrees that a reference is in fact prior art, and whether Plaintiff agrees that a person of ordinary skill in the art would be motivated to combine specific references. Defendants and Intervenors reserve the right to supplement these obviousness positions (including identifying additional prior art combinations and the associated reasons to combine) as discovery in the case progresses, including expert discovery.

*1. Motivation To Combine*

For each Asserted Patent, each prior art reference may be combined with one or more other prior art references to render obvious each of the Asserted Claims in combination, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patent and related applications.

A person of ordinary skill would have been motivated to combine the prior art cited in the attached claim charts based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The identified prior art references, including portions cited in the claim charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. On such bases, on an element-by-element basis, Defendants and Intervenors intend to combine one or more prior art references identified in the claim charts attached as Exhibits B-01 through B-08 and/or Appendix B with each other to address any contention from Plaintiff that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Defendants and Intervenors contend that, for each Asserted Patent, each charted prior art reference can be combined with other charted prior art references when a particular prior art item lacks or does not explicitly disclose an element or

feature of an Asserted Claim. A person of ordinary skill in the art would have been motivated to make such combinations based on, for example, the below. The below list of motivations to combine is exemplary and representative, and is not an exhaustive list of motivations to combine, nor potential combinations.

*888 Patent*

- A person of ordinary skill in the art would have been motivated to combine 3GPP TS 36.300 v10.3.0 and/or 3GPP TS 23.401 v10.3.0 and/or 3GPP TS 36.331 v10.1.0 and/or 3GPP TS 36.211 v10.1.0 and/or 3GPP TS 36.213 v10.1.0 and/or 3GPP TS 36.214 v10.1.0 and/or 3GPP TS 36.321 v10.1.0 and/or 3GPP TS 36.306 v10.1.0 (collectively, the "3GPP Standards"), as the 3GPP Standards are technical specifications defining different aspects of the same standard and a person of ordinary skill in the art would understand that the 3GPP Standards were therefore meant to be read together.

- A person of ordinary skill in the art would have been motivated to combine the 3GPP standards ("3GPP Standards") in combination with U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149"), as the 3GPP standards show the standardization of the methods and systems disclosed in Chitrapu. Moreover, both references discuss handover and the steps necessary to complete a handover. Further the 3GPP Standards and Chitrapu-149 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine the 3GPP standards ("3GPP Standards") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)") as the 3GPP standards show the standardization of the methods and systems disclosed in Holma and Holma 2009. A POSITA would have looked to Holma and Holma 2009 as they describe textbook principles about the standard. Moreover, both references discuss handover and the steps necessary to complete a handover. Further the 3GPP Standards and Holma and Holma 2009 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine 3GPP standards ("3GPP Standards") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094") as the 3GPP standards show the standardization of the methods and systems disclosed in Kin-094. Moreover, both references discuss handover and the steps necessary to complete a handover. Further the 3GPP Standards and Kim-094 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine 3GPP standards ("3GPP Standards") in combination with U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") as the 3GPP standards show the standardization of the methods and systems disclosed in Hagerman-502. Moreover, both references discuss handover and the steps necessary to complete a handover. Further the 3GPP Standards and Hagerman-502 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine 3GPP standards ("3GPP Standards") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977") as the 3GPP standards show the standardization of the methods and systems disclosed in Vanghi-977. Moreover, both references discuss handover and the steps necessary to complete a handover. Further the 3GPP Standards and Vanghi-977 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2006/0111149A1 ("Chitrapu-149") in combination with U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") as both references discuss handover and the steps necessary to complete a handover. Further the Chitrapu-149 and Hagerman-502 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)") as both references discuss handover and the steps necessary to complete a handover. Moreover, Holma and Holma 2009 describe textbook principles about the methods and systems described in Chitrapu-149. Further the Chitrapu-149 and Holma and Holma 2009 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094") as both references discuss handover and the steps necessary to complete a handover. Further the Chitrapu-149 and Kim-094 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977") as both references discuss handover and the steps necessary to complete a handover. Further the Chitrapu-149 and Vanghi-977 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based

Radio Access by Holma & Toskala ("Holma & Toskala (2009)") as both references discuss handover and the steps necessary to complete a handover. Moreover, Holma and Holma 2009 describe textbook principles about the methods and systems described in Hagerman-502. Further the Hagerman-502 and Holma and Holma 2009 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094") as both references discuss handover and the steps necessary to complete a handover. Further the Hagerman-502 and Kim-094 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2009/0298502 ("Hagerman-502") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977") as both references discuss handover and the steps necessary to complete a handover. Further the Hagerman-502 and Vanghi-977 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2004/0176094 ("Kim-094") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)") as both references discuss handover and the steps necessary to complete a handover. Moreover, Holma and Holma 2009 describe textbook principles about the methods and systems described in Kim-094. Further the Kim-094 and Holma and Holma 2009 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. 2004/0176094 ("Kim-094") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977") as both references discuss handover and the steps necessary to complete a handover. Further the Kim-094 and Vanghi-977 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with LTE for UMTS: Evolution to LTE-Advanced, 2d Ed., Edited by Holma, H. and Toskala, A. (2011) ("Holma") or LTE for UMTS OFDMA and SC-FDMA Based Radio Access by Holma & Toskala ("Holma & Toskala (2009)") as both references discuss handover and the steps necessary to complete a handover. Moreover, Holma and Holma 2009 describe textbook principles about the methods and systems described in Kazmi. Further the Kazmi and Holma and Holma 2009 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2006/0111149A1("Chitrapu-149")

as both references discuss handover and the steps necessary to complete a handover. Further the Kazmi and Chitrapu-149 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with 3GPP standards ("3GPP Standards") as the 3GPP standards show the standardization of the methods and systems disclosed in Kazmi. Both references discuss handover and the steps necessary to complete a handover. Further the Kazmi and 3GPP Standards are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2009/0298502 ("Hagerman-502) as both references discuss handover and the steps necessary to complete a handover. Further the Kazmi and Hagerman-502 are analogous art as they both disclose handover.

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2004/0176094 ("Kim-094") as both references discuss handover and the steps necessary to complete a handover. Further the Kazmi and Kim-094 are analogous art as they both disclose handover

- A person of ordinary skill in the art would have been motivated to combine U.S. Patent Publication No. US 2010/0099416A1 to Kazmi et al. ("Kazmi") in combination with U.S. Patent Publication No. 2005/0073977 ("Vanghi-977") as both references discuss handover and the steps necessary to complete a handover. Further the Kazmi and Vanghi-977 are analogous art as they both disclose handover

- Any of the above, in combination with any reference noted in Appendix B.

The suggested obviousness combinations discussed herein are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Defendants and Intervenors reserve the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation. Defendants and Intervenors will further specify the

motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

The decision in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), held that patents that are based on new combinations of elements or components already known in a technical field may be found to have been obvious. The Supreme Court rejected a rigid application of the "teaching, suggestion, or motivation [to combine]" test. *Id*. at 407, 418. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim." *Id*. at 419. "Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id*. at 420. The Supreme Court emphasized the principle that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id*. at 416. A key inquiry is whether the "improvement is more than the predictable use of prior art elements according to their established function." *Id*. at 417.

The Court further held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. It is sufficient that a combination of elements was "obvious to try" – "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id.* at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id.* Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course without real

innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id*. at 419.

The rationale to combine or modify prior art references is significantly stronger when the references seek to solve the same problem, come from the same field, and correspond well together. *See In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001) (allowing two references to be combined as invalidating art under similar circumstances where the art "focus[ed] on the same problem ... c[a]me from the same field of art [and] ... the identified problem found in the two references correspond[ed] well").

All of the following rationales recognized in *KSR* support a finding of obviousness with respect to each of the obviousness combinations disclosed herein: (1) combining prior art elements according to known methods to yield predictable results; (2) simple substitution of one known element for another to obtain predictable results; (3) use of a known technique to improve similar devices, methods, or products in the same way; (4) applying a known technique to a known device, method, or product ready for improvement to yield predictable results; (5) "obvious to try," that is, choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (6) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and (7) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. Certain of these rationales are discussed more specifically below. The fact that other rationales are not discussed more specifically should not be interpreted as an admission or concession that the other rationales do not apply.

Multiple teachings, suggestions, motivations, and/or reasons to modify any of the references and/or to combine two or more of the prior art references set forth herein come from many sources, including the prior art itself (individual references and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, obviousness to try, the nature of the problem faced, and/or knowledge possessed by a person of ordinary skill. Defendants and Intervenors reserve the right to present expert testimony on, among other things, the teachings, suggestions, motivations, and/or reasons to modify any of the references and/or to combine any two or more of the prior art references presented in Exhibits B-01 through B-08 and/or Appendix B.

Defendants and Intervenors further contend that the prior art identified in these Preliminary Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Defendants and Intervenors reserve their rights to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of each of the Asserted Claims was well-known to those of ordinary skill in the art at the time. At best, the elements recited in the Asserted Claims are a mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

*2. Background And State Of The Art*

Defendants and Intervenors set forth below a summary of their current understanding of the state of the art as understood as of the asserted priority date of the Asserted Patent for the general subject matter of the Asserted Patent. The information discussed in this section may have

formed the background knowledge of a person of ordinary skill in the art at the time the Asserted Patent was filed and may have been used in determining whether and how to combine references to achieve the claimed inventions. *See Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (stating that "the knowledge [of a person of ordinary skill in the art] is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious"). Defendants and Intervenors expressly reserve the right to rely on each of the prior art references, systems, concepts, and technologies discussed in this Section with respect to the Asserted Patent.

Defendants and Intervenors contend that, to the extent the primary references identified in these Preliminary Invalidity Contentions do not anticipate the Asserted Claims, it would have been obvious to combine any of the references, systems, concepts, or technologies discussed in this Section with those primary references. Defendants and Intervenors also reserve the right to rely on the discussions of the state of the art and prior art in the Asserted Patent specification and its file history including file histories of related patents and foreign file histories of related patents in explaining the state of the art. Defendants and Intervenors further expressly reserve the right to supplement their summary of the background and state of the art, including, for example, with information from any of the authors or named inventors on any of the prior art references, by personnel familiar with systems based on any of the prior art references, or any prior art systems related to prior art references, or by technical experts retained on behalf of any party. Defendants and Intervenors also expressly reserve the right to rely on any admissions by any of the named inventors, institutions with which they were associated, and Plaintiff, regarding the state of the art.

*a.* *888 Patent*

The "handover" procedure is a long-existing procedure. The 2G, 3G, and 4G cellular networks rely on the concept of handover. As mobile networks matured, a number of different

types of handover emerged. In 3GPP systems, two types of handover are intra-Radio Access Technology (RAT) handover and inter-RAT handover. For example, in intra-LTE handover, the source and target are both in the LTE system. Holma and Toskala at 159. For inter-RAT handover, the source base station, such as an eNodeB, can decide a target RAT, which could have been UTRAN, GERAN, or CDMA2000 system prior to the alleged priority date of the ’888 Patent. *Id*.

The procedures for inter-radio access technology handover to other Radio Access Technology (specifically, handover between an LTE network and another RAT), as standardized in 3GPP TS 36.300 (among other sections), were well known in the art prior to the alleged priority date of the ’888 Patent. It was known in the prior art that, based on UE measurement reporting, the source base station—and LTE eNodeB for example—can decide the target Radio Access Technology (RAT), which could be different from the source RAT, e.g., LTE. It was known in the prior art to send a MEASUREMENT REPORT signaling message transmitted by the UE to the LTE Network (via the source eNodeB) regarding the received signal strength of other possible target base stations before the source eNodeB can determine which possible target cell would be most suitable for the handover. TS 36.300 V10.3.0 § 10.1.2 (“Source eNB makes decision based on MEASUREMENT REPORT and RRM information to hand off UE.”). *See also* Exhibit B-01.

Another message known in the prior art was the HANDOVER REQUEST signaling message to the target base station (via the source base station). The handover process is triggered when certain conditions are met. These conditions can include factors such as deteriorating signal quality, reaching a coverage boundary, congestion in the current cell, or network-specific parameters. The network or the User Equipment (UE) can initiate the handover process based on these triggers.

In addition, adapting the 4G network to prepare for the handover was well known. When the handover is triggered the target eNodeB receives a S1: Handover Request message from MME, it allocates the necessary resources, builds the RRC Connection Reconfiguration message (= Handover Command) and sends it in the S1: Handover Request Acknowledge message to MME. Thus this RRC Connection Reconfiguration message will be transferred to the UE via source RAT. Holma 2009. Part of allocating the necessary resources for the UE included establishing radio bearers and bandwidth to accommodate the UE's handover. In LTE beamforming scenarios, the specific beam or beams allocated for the UE depend on factors such as the UE's location, signal conditions, network load, and the beamforming capabilities of the 4G network.

*3. Secondary Considerations*

A patentee bears the burden of production with respect to evidence of secondary considerations of non-obviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Preliminary Invalidity Contentions, Plaintiff has not identified any evidence of secondary considerations.

*a. 888 Patent*

As shown in these Preliminary Invalidity Contentions, other companies and individuals described, built, and/or patented the exact same concepts in the 888 Patent before Plaintiff ever did—often many years before. Even where others' invention occurred around the same time as the Asserted Patent, such simultaneous invention demonstrates the obviousness of the 888 Patent.

Additionally, potentially relevant evidence includes any prior art reference cited herein that occurred before or around the alleged inventions claimed in the 888 Patent. This also includes any prior art asserted in these Preliminary Invalidity Contentions that Plaintiff is able to pre-date based

on its asserted priority dates by proving, *inter alia*, corroborated conception and diligent reduction to practice.

Defendants and Intervenors reserve all rights to further respond to any secondary considerations of non-obviousness raised by Plaintiff, including by updating, modifying, and/or adding to these Preliminary Invalidity Contentions. Defendants and Intervenors are not aware of any unexpected results (none is mentioned in the 888 Patent or its file histories), long felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the alleged inventions of the 888 Patent.

### E. P.R. 3-3(D): INVALIDITY UNDER 35 U.S.C. § 112

As set forth below, Defendants and Intervenors contend that the Asserted Claims are invalid under 35 U.S.C. §112 because the claims (1) are indefinite; (2) fail to satisfy the enablement requirement; and/or (3) fail to satisfy the written description requirement.

Defendants' and Intervenors' contentions that the Asserted Claims identified in this section are made in the alternative and do not constitute, and should not be interpreted as, admissions regarding the construction or scope of the Asserted Claims identified herein or that the Asserted Claims identified herein would not have been anticipated and/or obvious in light of the prior art.

Plaintiff has not yet provided a claim construction for any of the terms or phrases that Defendants and Intervenors anticipate will be in dispute. Defendants and Intervenors, therefore, cannot provide a complete list of § 112 defenses because Defendants and Intervenors do not know whether Plaintiff will proffer a construction for certain terms and phrases that is broader than, or inconsistent with, the construction that would be supportable by the disclosure set forth in the specification. Defendants and Intervenors offer these contentions without prejudice to any position they may ultimately take as to any claim construction issues.

Accordingly, Defendants and Intervenors reserve the right to supplement, amend, and/or modify these § 112 invalidity contentions as discovery progresses.

#### *1. Invalidity Under 35 U.S.C. § 112, ¶ 1*

35 U.S.C. § 112, ¶ 1 requires that the specification contain a written description of the invention. "[T]he hallmark of written description is disclosure." *Bos. Sci. Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1361-62 (Fed. Cir. 2011) (citation omitted). The test for whether a specification adequately describes an invention is "whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date .... [T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art .... [It] is a question of fact." *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (*en banc*); *Bos. Sci.*, 647 F.3d at 1362.

The enablement requirement of Section 112 demands that the patent specification enable "those skilled in the art to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "[T]he scope of the claims must be less than or equal to the scope of the enablement." *Nat'l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999).

Defendants and Intervenors contend that the following Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 1. Each Asserted Claim identified below is invalid under ¶ 1 because the specification of the Asserted Patent fails to provide a sufficient written description, enabling disclosure and/or fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention the meaning of the term(s) and/or phrase(s):

| Asserted Patent | Asserted Claim(s) | Term(s) and/or Phrase(s) Lacking Written Description and Enablement |
|---|---|---|
| 888 | 9 | a determination by the second wireless network that the wireless device is not currently covered by the first wireless network but is capable of being covered by the first wireless network |

| Asserted Patent | Asserted Claim(s) | Term(s) and/or Phrase(s) Lacking Written Description and Enablement |
|---|---|---|
| 888 | 9 | adapting one or more beams of an antenna array to facilitate coverage of the wireless device by the first wireless network |
| 888 | 12 | adapting one or more beams based, at least in part, on one of a predetermined network load placed on the first wireless network due to the handoff of the wireless device or an effect of adapting one or more beams on other wireless devices |
| 888 | 23 | cause the beam to be adapted comprises to cause a beam to be adapted based, at least in part on one of a network load placed on the first wireless network due to the handoff of the wireless device of an impact of adapting one or more beams on other wireless devices |
| 888 | 20 | adaption manager |
| 888 | 20 | an antenna array configured to generate one or more adaptable beams to modify a coverage area for the first wireless network |
| 888 | 20 | a determination by the second wireless network that the wireless device is capable of being covered by the first wireless network |
| 888 | 20 | cause a beam from among the one or more adaptable beams to be adapted in order to enable the wireless device to be covered by the first wireless network |

*2. Invalidity Under 35 U.S.C. § 112, ¶ 2*

Claims are indefinite under 35 U.S.C. § 112, ¶ 2 when they "fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

In addition to Defendants and Intervenors' reservation of rights stated above, Defendants and Intervenors note that the Court's Docket Control Order contemplates that all indefiniteness issues be brought to the Court's attention through the *Markman* briefing process. Defendants' and Intervenors' detailed arguments as to indefiniteness will be presented at that time, *i.e.*, through the *Markman* meet and confer and briefing process.

Defendants and Intervenors contend that the Asserted Claim is invalid under 35 U.S.C. § 112, ¶ 2. The Asserted Claim(s) identified below is invalid under ¶ 2 because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claimed invention:

| Asserted Patent | Asserted Claim(s) | Term(s) and/or Phrase(s) Lacking Written Description and Enablement |
|---|---|---|
| 888 | 9 | a determination by the second wireless network that the wireless device is not currently covered by the first wireless network but is capable of being covered by the first wireless network |
| 888 | 9 | adapting one or more beams of an antenna array to facilitate coverage of the wireless device by the first wireless network |
| 888 | 12 | adapting one or more beams based, at least in part, on one of a predetermined network load placed on the first wireless network due to the handoff of the wireless device or an effect of adapting one or more beams on other wireless devices |
| 888 | 23 | cause the beam to be adapted comprises to cause a beam to be adapted based, at least in part on one of a network load |

| Asserted Patent | Asserted Claim(s) | Term(s) and/or Phrase(s) Lacking Written Description and Enablement |
|---|---|---|
| | | placed on the first wireless network due to the handoff of the wireless device of an impact of adapting one or more beams on other wireless devices |
| 888 | 20 | adaption manager |
| 888 | 20 | modify a coverage area |
| 888 | 20 | In order to enable the wireless device to be covered by the first wireless network |

## III. ACCOMPANYING DOCUMENT PRODUCTION

Pursuant to P.R. 3-4(a), Defendants and Intervenors are producing documentation sufficient to show the operation of any aspects or elements of each Accused Instrumentality identified by Plaintiff in its P.R. 3-1(c) charts.

Additionally, Pursuant to P.R. 3-4(b), Defendants and Intervenors are producing herewith a copy of each prior art reference identified above pursuant to P.R. 3-3(a) which does not appear in the file history of the Asserted Patent as well as additional prior art references. To the extent any such prior art reference is not in English, Defendants and Intervenors have produced to Plaintiff or will produce to Plaintiff an English translation of the portion(s) of the non-English prior art reference (s) relied upon by Defendants and Intervenors.

DATED: May 12, 2023

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## CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document has been served on May 12, 2023, on the counsel of record via electronic mail.

*/s/ David S. Frist*
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