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

HEADWATER RESEARCH LLC, *Plaintiff*, v. CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS and VERIZON CORPORATE SERVICES GROUP, INC., *Defendants*.	CIVIL ACTION NO. 2:23-cv-00352

DEFENDANTS' P.R. 3-3 INVALIDITY CONTENTIONS

TABLE OF CONTENTS

I. INTRODUCTORY STATEMENT 1
A. Priority Date 2
B. Claim Construction 3
C. Ongoing Discovery and Supplementation 5
D. Prior Art Identification and Citations Thereto 6
E. No Patentable Weight 8
II. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103 8
A. State of the Art 10
B. Identification of Prior Art 14
1. US Patent No. 8,589,541 16
2. US Patent No. 8,924,543 19
3. US Patent No. 9,198,042 20
4. US Patent No. 9,215,613 21
C. Claim Charts 24
D. Motivations to Combine Prior Art 25
1. US Patent No. 8,589,541 28
2. US Patent No. 8,924,543 35
3. US Patent No. 9,198,042 42
4. US Patent No. 9,215,613 46
E. Prior Art Under 35 U.S.C. §§ 102(f) and 102(g) 53
III. INVALIDITY UNDER 35 U.S.C. § 112 54
A. INVALIDITY UNDER 35 U.S.C. § 112, ¶ 1 54
1. US Patent No. 8,589,541 56
2. US Patent No. 8,924,543 57
3. US Patent No. 9,198,042 61
4. US Patent No. 9,215,613 62
B. INVALIDITY UNDER 35 U.S.C. § 112, ¶ 2 63
IV. OBVIOUSNESS-TYPE DOUBLE PATENTING 64
V. ACCOMPANYING DOCUMENT PRODUCTION 66

EXHIBITS AND APPENDICES

Exhibit	Description
A-1	’541 Patent Invalidity Chart for US Patent Pub. 2008/0160958 (“Abichandani”)
A-2	’541 Patent Invalidity Chart for US Patent Pub. 2009/0217065 (“Araujo”)
A-3	’541 Patent Invalidity Chart for US Patent No. 8,347,362 (“Cai”)
A-4	’541 Patent Invalidity Chart for US Patent Pub. 2008/0080458 (“Cole”)
A-5	’541 Patent Invalidity Chart for US Patent Pub. 2010/0017506 (“Fadell”)
A-6	’541 Patent Invalidity Chart for US Patent No. 5,987,611 (“Freund”)
A-7	’541 Patent Invalidity Chart for US Patent Pub. 2008/0146268 (“Gandhi”)
A-8	’541 Patent Invalidity Chart for European Patent Publication No. 1,484,871 A1 (“Kelz”)
A-9	’541 Patent Invalidity Chart for US Patent Pub. 2009/0207817 (“Montemurro”)
A-10	’541 Patent Invalidity Chart for US Patent Pub. 2008/0084977 (“Nayak”)
A-11	’541 Patent Invalidity Chart for Patent Pub. 2007/0038763 (“Oestvall”)
A-12	’541 Patent Invalidity Chart for US Patent Pub. 2006/0039354 (“Rao”)
A-13	’541 Patent Invalidity Chart for US Patent Pub. 2006/0059556 (“Royer”)
A-14	’541 Patent Invalidity Chart for US Patent Pub. 20090265752 A1 (“Sharif-Ahmadi”)
A-15	’541 Patent Invalidity Chart for US Patent No. 8,381,127 (“Singh”)
A-16	’541 Patent Invalidity Chart for Android Devices, Applications, and Operating Systems
B-1	’543 Patent Invalidity Chart for European Patent No. 1,143,665 A2 (“Jain”)
B-2	’543 Patent Invalidity Chart for International Publication No. 2008/046326A1 (“Lv”)
B-3	’543 Patent Invalidity Chart for U.S. Patent Pub. 2005/0107087 (“Makinen”)
B-4	’543 Patent Invalidity Chart for U.S. Patent No. 6,286,052 (“McCloghrie”)
B-5	’543 Patent Invalidity Chart for U.S. Patent No. 9,712,331 (“Poh”)
B-6	’543 Patent Invalidity Chart for U.S. Patent Pub. 2006/0039354 (“Rao”)
B-7	’543 Patent Invalidity Chart for U.S. Patent Pub. 2005/0276262 (“Schuba”)
B-8	’543 Patent Invalidity Chart for U.S. Patent No. 8,688,784 (“Zabawskyj”)
C-1	’042 Patent Invalidity Chart for U.S. Patent Pub. 2007/0288989 (“Aarnos”)
C-2	’042 Patent Invalidity Chart for U.S. Patent Pub. 2006/0223495 (“Cassett”)
C-3	’042 Patent Invalidity Chart for U.S. Patent Pub. 2007/0021113 (“Hamasaki”)
C-4	’042 Patent Invalidity Chart for U.S. Patent Pub. 2007/0006289 (“Limont”)
C-5	’042 Patent Invalidity Chart for U.S. Patent Pub. 2006/0183461 (“Pearce”)

Exhibit	Description
D-1	’613 Patent Invalidity Chart for US Patent Pub. 2008/0160958 (“Abichandani”)
D-2	’613 Patent Invalidity Chart for US Patent Pub. 2009/0217065 (“Araujo”)
D-3	’613 Patent Invalidity Chart for US Patent No. 8,347,362 (“Cai”)
D-4	’613 Patent Invalidity Chart for US Patent Pub. 2008/0080458 (“Cole”)
D-5	’613 Patent Invalidity Chart for US Patent Pub. 2010/0017506 (“Fadell”)
D-6	’613 Patent Invalidity Chart for US Patent No. 5,987,611 (“Freund”)
D-7	’613 Patent Invalidity Chart for US Patent Pub. 2008/0146268 (“Gandhi”)
D-8	’613 Patent Invalidity Chart for European Patent Publication No. 1,484,871 A1 (“Kelz”)
D-9	’613 Patent Invalidity Chart for US Patent Pub. 2009/0207817 (“Montemurro”)
D-10	’613 Patent Invalidity Chart for US Patent Pub. 2008/0084977 (“Nayak”)
D-11	’613 Patent Invalidity Chart for US Patent Pub. 2007/0038763 (“Oestvall”)
D-12	’613 Patent Invalidity Chart for US Patent Pub. 2006/0039354 (“Rao”)
D-13	’613 Patent Invalidity Chart for US Patent Pub. 2006/0059556 (“Royer”)
D-14	’613 Patent Invalidity Chart for US Patent Pub. 20090265752 A1 (“Sharif-Ahmadi”)
D-15	’613 Patent Invalidity Chart for US Patent No. 8,381,127 (“Singh”)
D-16	’613 Patent Invalidity Chart for US Patent No. 8,028,060 (“Wyld”)
D-17	’613 Patent Invalidity Chart for Android Devices, Applications, and Operating Systems

Appendix	Description
A-A	’541 Patent – Appendix of Secondary References & Obviousness Combinations
B-B	’543 Patent – Appendix of Secondary References & Obviousness Combinations
C-C	’042 Patent – Appendix of Secondary References & Obviousness Combinations
D-D	’613 Patent – Appendix of Secondary References & Obviousness Combinations

Pursuant to P.R. 3-3 and the Court's Docket Control Order (Dkt. 40), Defendants Cellco Partnership d/b/a/ Verizon Wireless and Verizon Corporate Services Group, Inc. (collectively, "Verizon" or "Defendants") hereby provide these P.R. 3-3 Invalidity Contentions ("Invalidity Contentions") to Plaintiff Headwater Research, LLC ("Plaintiff" or "Headwater").

I. INTRODUCTORY STATEMENT

On September 28, 2023, Plaintiff served its Disclosure of Asserted Claims and Infringement Contentions ("Infringement Contentions") and asserted the following claims:

- U.S. Patent No. US 8,589,541 (the "'541 Patent") – Claims 1-174;
- U.S. Patent No. 8,924,543 (the "'543 Patent") – Claims 1-13, 15-16, 21-23, 28, 30-33, 35-47, 57-66, 68-72, 80, 85-93, 96, 98-99, 112-113, 120-121;
- U.S. Patent No. 9,198,042 (the "'042 Patent") – Claims 1-9, 12-14, 16-18; and,
- U.S. Patent No. 9,215,613 (the "'613 Patent") – Claims 1-24.

(collectively, the "Asserted Patents" and the "Asserted Claims"). Verizon contends that each of the Asserted Claims are ineligible subject matter under 35 U.S.C. § 101, and that each of the Asserted Claims is invalid under at least 35 U.S.C. §§ 102, 103, and/or 112.

These Invalidity Contentions address the claims identified in Headwater's Infringement Contentions. Verizon reserves the right to modify, amend, or supplement these Invalidity Contentions to the extent the Court permits Headwater to amend, supplement, or otherwise modify its Infringement Contentions, including by modifying the claims asserted, and to the full extent permitted by the Local Patent Rules.

Further, Headwater's Infringement Contentions are deficient and fail to provide allegations as to how the accused products infringe each and every claim limitation; rather, they simply parrot the claim language and then cite various documents—and in some circumstances, point to no evidence at all. Headwater therefore has prejudiced Verizon's ability to understand, for purposes

of preparing these Invalidity Contentions, what Headwater alleges to be the scope of the Asserted Claims. Verizon reserves the right to amend these Invalidity Contentions if and when Headwater provides proper infringement contentions as to each Asserted Claim.

Nothing in these Invalidity Contentions is intended, nor should be construed, as waiver of any claim construction argument or noninfringement position. Verizon's statements herein (including the accompanying charts) reflect Verizon's understanding of the purported potential scope of the claims that Headwater appears to be advocating in its Infringement Contentions. Verizon's statements herein are not to be construed as acquiescence to Headwater's interpretation of any claims or claim terms. Verizon disagrees that any such claim scope is proper.

Nothing herein shall be interpreted as an admission that: (1) the Asserted Claims are infringed by any of Verizon's products or services; (2) any particular feature or aspect of any of the accused instrumentalities practices any limitation of the Asserted Claims, (3) there is 35 U.S.C. § 112 support for any limitation of the Asserted Claims, or (4) any of Headwater's proposed or implied constructions are supportable.

A. Priority Date

Plaintiff asserts the same priority date for each Asserted Patent: January 28, 2009. Throughout these Invalidity Contentions, reference to an "asserted priority date" should not be construed to mean that Verizon agrees that any of the Asserted Patents are in fact entitled to such priority date, or that Plaintiff has provided proper notice as to its contentions for a priority date.

P.R. 3-2(b) requires Plaintiff to produce, contemporaneously with its Disclosure of Asserted Claims and Infringement Contentions," "[a]ll documents evidencing the conception, reduction to practice, design, and development of each claimed invention, which were created on or before the date of application for the patent in suit or the priority date identified pursuant to P.R. 3-1(e), whichever is earlier." Plaintiff's purported production pursuant to P.R. 3-2(b) includes

only the four Asserted Patents and their file histories. Verizon thus understands that Plaintiff is not asserting an invention date, or conception, reduction to practice, design, and/or development of the claimed invention, prior to January 28, 2009. To the extent Plaintiff later properly alleges that any such activities occurred prior to January 28, 2009, Verizon reserves the right to supplement these Invalidity Contentions to address any such contention, including by identifying and/or charting additional prior art that may become relevant in view of such assertion. Likewise, to the extent Plaintiff successfully establishes an invention date before any of the prior-art references relied on by Verizon, then those references serve as evidence of secondary considerations of obviousness, particularly, contemporaneous invention by others. To the extent Plaintiff alleges that any prior art relied on in these Invalidity Contentions does not actually qualify as prior art to the Asserted Patent, Verizon reserves 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 and/or date of invention for a particular asserted claim). Verizon also reserves the right to rely on additional documents, information, and evidence to demonstrate public availability or public availability by a certain date of a prior art reference or to rebut any efforts by Plaintiff to allege any reference was not publicly available or publicly available by a certain date or otherwise available as prior art.

B. Claim Construction

Verizon's Invalidity Contentions are based on (1) Verizon's present understanding of the Asserted Claims, and (2) the claim constructions Headwater appears to be using based on the Infringement Contentions, all without regard to whether Verizon agrees with Headwater's apparent or expressed claim constructions. Verizon reserves the right to supplement or otherwise amend these Invalidity Contentions in response to any court-ordered clarifications on claim constructions, any report from any expert witness for Headwater regarding the scope of the claims,

any briefing filed by Headwater relating to the scope of the claims, and any position taken by Headwater concerning claim scope, infringement, or invalidity.

If Verizon's disclosures herein are consistent with any explicit, apparent, or implied claim constructions in Headwater's Infringement Contentions, no inference is intended and no inference should be drawn that Verizon agrees with any of Headwater'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. In addition, to the extent that these Invalidity Contentions rely on or otherwise embody a particular order in which the steps of method claims are performed, Verizon does not necessarily propose that the method claims must be limited to such order, although Verizon may later propose such an order.

Nothing herein should be read to suggest that Verizon agrees that any particular claim term is sufficiently definite, enabled or supported by the written description to meet the requirements of 35 U.S.C. § 112. Likewise, nothing herein should be read to suggest that Verizon agrees that the preamble of any claim is or is not limiting.

Because any positions taken in these disclosures are based on the claim scope apparently asserted by Headwater in its Infringement Contentions, with which Verizon may disagree, Verizon may take positions with respect to claim construction issues that are inconsistent with, or even contradictory to, positions expressed or implied in these Invalidity Contentions.

Prior art not included in these Invalidity Contentions, whether or not now known to Verizon, might become relevant depending on the claim constructions proposed by Verizon and/or the Court's claim construction rulings. Verizon reserves all rights to supplement or modify the positions and information in these Invalidity Contentions, including, without limitation, the prior

art and grounds of invalidity set forth herein, after the Court has construed any term of the Asserted Claims.

C. Ongoing Discovery and Supplementation

Verizon bases these Invalidity Contentions on its current knowledge and understanding of the Asserted Patents, Headwater's Infringement Contentions, and other facts and information available as of the date of these contentions. Verizon's investigation into prior art—including prior art identified in these disclosures, third-party prior art (including system art and related evidence), documents, and knowledgeable witnesses—is ongoing.[1] Furthermore, Verizon anticipates seeking and obtaining discovery, including third-party discovery, that further evidences and supports the invalidity of the Asserted Claims. Thus, Verizon expects to present additional information and evidence in support of its Invalidity Contentions, and to revise, amend, and/or supplement these Invalidity Contentions accordingly in a manner consistent with the Federal Rules of Civil Procedure and the Court's rules and applicable orders.

Furthermore, Verizon is investigating and pursuing information from additional sources of discovery that may bear on prior art and other invalidity bases, and may serve discovery requests on those sources if necessary. Verizon reserves the right to revise, amend, and/or supplement these Invalidity Contentions with any relevant information obtained from those additional sources.

---

[1] Verizon's future 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 Invalidity Contentions, and seeking additional information related to available prior art systems, as well as Headwater's Infringement Contentions and the products accused of infringing therein. No depositions have been taken as of this time, including, without limitation, depositions of any inventors, authors, or entities listed on any references or systems identified in these Invalidity Contentions. Further, Verizon reserves the right to review and supplement these Invalidity Contentions with respect to any additional prior art that becomes apparent as discovery proceeds.

Verizon further reserves the right to rely on statements or admissions from those owing a duty of candor, such as the named inventor, prosecution counsel, and others involved in the prosecution of the patent applications or related applications, concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the following: the respective prosecution histories of the Asserted Patents and related patent applications; deposition testimony of the named inventors; and the papers filed and any evidence submitted by Headwater in connection with this litigation.

Prior art not identified in this disclosure, whether known or not known to Verizon, may become relevant, including prior art concerning the state of the art at the time of invention, as well as simultaneous or near-simultaneous independent invention by others. For instance, Verizon is currently unaware of the extent, if any, to which Headwater will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Verizon. To the extent that such an issue arises, Verizon reserves the right to identify other references that would disclose, practice, or render obvious the allegedly missing limitation(s) of the disclosed subject matter.

D. Prior Art Identification and Citations Thereto

In these Invalidity Contentions, Verizon identifies specific portions of prior art references that disclose the elements of the Asserted Claims. While Verizon has 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. Verizon therefore reserves 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 in the understanding and interpretation of the identified portions of the prior art.

Verizon also reserves 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 Patents or related patents, the prosecution history of the Asserted Patents or related patents, or other admissions obtained during discovery; (3) foreign counterparts of any U.S. patents identified in Verizon's Invalidity Contentions; and (4) any 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 used during any reexamination, *inter partes* review, post-grant review, or any other proceeding at the Patent Office involving the Asserted Patents. Where a prior art reference includes citations to other references, those other references are considered incorporated by reference for context.

The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Verizon's anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

Where Verizon identifies in the claim charts 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 specification and prosecution history in addition to the figure

itself. Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

E. No Patentable Weight

Verizon reserves the right to argue that various portions of the Asserted Claims, such as an intended use or result, nonfunctional 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.

Nothing herein should be read to suggest that Verizon agrees that any particular claim term is sufficiently definite, enabled or supported by the written description to meet the requirements of 35 U.S.C. § 112. In addition, nothing herein admits in any way that any of Verizon's accused products infringe any of the Asserted Claims. Verizon reserves the right to amend and supplement these Invalidity Contentions, including in response to any amendments to, and revisions of, Headwater's Infringement Contentions or application of the Asserted Claims. Verizon further reserves the right to supplement its corresponding document production should they later find additional, responsive documents.

II. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103

Verizon contends that the Asserted Claims are invalid as anticipated by the prior art under 35 U.S.C. § 102 and/or as obvious in view of the prior art, the knowledge of a person having ordinary skill in the art, and/or secondary factors of obviousness under 35 U.S.C. § 103.

The obviousness combinations of references provided in Verizon's invalidity claim charts under 35 U.S.C. § 103 are exemplary and are not intended to be exhaustive. In particular, Verizon is currently unaware of the extent, if any, to which Headwater will contend that limitations of the Asserted Claims are not disclosed in the art identified by Verizon as anticipatory. To the extent

an issue arises with any such limitation, Verizon will identify other obviousness combinations and/or other references that would have made obvious the addition of the allegedly missing limitation to the disclosed device, system, or method of operation.

Verizon reserves the right to present additional items of prior art under 35 U.S.C. § 102 and/or 35 U.S.C. § 103 located during the course of discovery or further investigation. For example, Verizon expects to issue subpoenas to third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed below and/or additional prior art. These third parties include without limitation the authors, inventors, or assignees of the references listed in these disclosures. In addition, Verizon reserves the right to assert invalidity under other subsections of 35 U.S.C. § 102 to the extent that discovery or further investigation yields information forming the basis for such invalidity.

A patentee bears the burden of production with respect to evidence of secondary considerations of nonobviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Invalidity Contentions, Headwater has not identified any evidence of secondary considerations, nor does Headwater offer any evidence or explanation to support its allegations. As shown in these Invalidity Contentions, other companies and individuals described, built, and/or patented the exact same concepts in the Asserted Patents before Headwater ever did—often years before. Even where others' invention(s) occurred around the same time as the Asserted Patents, such simultaneous invention demonstrates the obviousness of the Asserted Patents.

Potentially relevant evidence includes any prior art reference cited herein that was publicly known or available before or around the alleged inventions claimed in the Asserted Patents. This also includes any prior art asserted in these Invalidity Contentions that Headwater is able to pre-

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

Verizon reserves all rights to further respond to any secondary considerations of nonobviousness raised by Headwater, including by updating, modifying, and/or adding to these Invalidity Contentions. Verizon is not aware of any unexpected results, long-felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the alleged inventions of the Asserted Patents.

A. State of the Art

The subject matter of the Asserted Claims was well understood to those of skill in the art as of the respective priority dates of the Asserted Patents. To describe the state of the art at the time of the alleged inventions, in addition to the references listed on the face of the Asserted Patents and those references listed in Section B and charted in Exhibits A-1 to A-16, B-1 to B-8, C-1 to C-5, D-1 to D-17, and Appendices A-A, B-B, C-C, and D-D, Defendants may rely on at least the references listed below and any admitted prior art discussed in the Asserted Patent and file histories.

US Patent or Patent Publication	Publication/Issue Date
U.S. Patent No. 7,260,635 B2	Aug. 21, 2007
U.S Patent Application Pub. No. 2002/0166117 A1	Nov. 7, 2002
U.S Patent Application Pub. No. 2006/0039354 A1	Feb. 23, 2006
U.S Patent Application Pub. No. 2006/0059556 A1	Mar. 16, 2006
U.S Patent Application Pub. No. 2010/0017506 A1	Jan. 21, 2010
U.S Patent Application Pub. No. 2011/0019557 A1	Jan. 27, 2011
U.S. Patent No. 7,069,330 B1	Jun. 27, 2006

US Patent or Patent Publication	Publication/Issue Date
U.S. Patent No. 8,397,087 B1	Mar. 12, 2013
U.S. Patent No. 8,667,513 B1	Mar. 4, 2014
U.S Patent Application Pub. No. 2005/0026654 A1	Feb. 3, 2005
U.S. Patent No. 5,987,611	Nov. 16, 1999
U.S Patent Application Pub. No. 2012/0102504 A1	Apr. 26, 2012
U.S. Patent No. 9,098,333 B1	Aug. 4, 2015
U.S Patent Application Pub. No. 2012/0265897 A	Oct. 18, 2012
U.S Patent Application Pub. No. 2009/0190471 A1	Jul. 30, 2009
U.S. Patent No. 8,320,272 B2	Nov. 27, 2012
U.S. Patent No. 8,437,748 B2	May 7, 2013
U.S Patent Application Pub. No. 2008/0085717 A1	Apr. 10, 2008
U.S Patent Application Pub. No. 2010/0112955 A1	May 6, 2010
European Patent Application EP 1 484 871 A1	Dec. 8 2004
U.S. Patent No. 9,398,103 B2	Jul. 19, 2016
U.S. Patent Application Pub. No. 2002/0133598 A1	Sep. 19, 2002
U.S. Patent Application Pub. No. 2008/0282080 A1	Nov. 13, 2008
International Publication No. WO 2008/043278 A1	Apr. 17, 2008
U.S. Patent No. 9,008,673 B1	Apr. 14, 2015
U.S. Patent Application Pub. No. 2009/0028127 A1	Jan. 29, 2009
U.S. Patent No. 6,898,654 B1	May 24, 2005
U.S. Patent Application Pub. No. 2006/0053113 A1	Mar. 9, 2006

US Patent or Patent Publication	Publication/Issue Date
International Publication No. WO 2005/015379 A1	Feb. 2, 2008
U.S. Patent No. 8,099,078 B2	Jan. 17, 2012
U.S. Patent Application Pub. No. 2006/0229090 A1	Oct. 12, 2006
Australian Application Pub. No. 2003255114 B2	Aug. 13, 2003
U.S. Patent Application Pub. No. 2007/0038763 A1	Feb. 15, 2007
U.S. Patent Application Pub. No. 2009/0207817 A1	Aug. 20, 2009
U.S. Patent No. 6,578,077 B1	Jun. 10, 2003
U.S. Patent Application Pub. No. 2008/0080457 A1	Apr. 3, 2008
U.S. Patent Application Pub. No. 2008/0084977 A1	Apr. 10, 2008
U.S. Patent Application Pub. No. 2005/0108075 A1	May 19, 2005
U.S. Patent No. 7,290,034 B2	Oct. 30, 2007
U.S. Patent No. 8,028,060 B1	Sep. 27, 2011
U.S. Patent No. 8,260,253 B2	Sep. 4, 2012
U.S. Patent No. 9,516,129 B2	Dec. 6, 2016
U.S. Patent Application Pub. No. 2007/0162582 A1	Jul. 12, 2007
U.S. Patent Application Pub. No. 2008/0080458 A1	Apr. 3, 2008
U.S. Patent Application Pub. No. 2009/0217065 A1	Aug. 27, 2009
U.S. Patent Application Pub. No. 2009/0307696 A1	Dec. 10, 2009
U.S. Patent Application Pub. No. 2010/0077035 A1	Mar. 25, 2010
U.S. Patent Application Pub. No. 2010/0115048 A1	May 6, 2010
U.S. Patent Application Pub. No. 2011/0185202 A1	Jul. 28, 2011

US Patent or Patent Publication	Publication/Issue Date
U.S. Patent Application Pub. No. 2012/0023236 A1	Jan. 26, 2012
U.S. Patent Application Pub. No. 2012/0185577 A1	Jul. 19, 2012
U.S. Patent Application Pub. No. 2012/0260118 A1	Oct. 11, 2012
U.S. Patent Application Pub. No. 2012/0284620 A1	Nov. 8, 2012
U.S. Patent Application Pub. No. 2011/0249668 A1	Oct. 13, 2011
U.S. Patent Application Pub. No. 2011/0312283 A1	Dec. 22, 2011
U.S. Patent Application Pub. No. 2012/0157038 A1	Jun. 21, 2012
U.S. Patent No. 7,821,985 B2	Oct. 26, 2010
U.S. Patent Application Pub. No. 2009/0119773 A1	May 7, 2009
U.S. Patent No. 7,751,330 B2	Jul. 6, 2010
U.S. Patent Application Pub. No. 2011/0019574 A1	Jan. 27, 2011
U.S. Patent No. 8,135,443 B2	Mar. 13, 2012
U.S. Patent Application Pub. No. 2011/0314151 A1	Dec. 22, 2011
U.S. Patent No. 8,626,115 B2	Jan. 7, 2014
U.S. Patent No. 8,589,541 B2	Nov. 19, 2013
U.S. Patent No. 8,429,409 B1	Apr. 23, 2013
U.S. Patent No. 6,185,576 B2	Feb. 6, 2001
U.S. Patent No. 8,666,364 B2	Mar. 4, 2014
U.S. Patent No. 8,634,821 B2	Jan. 21, 2014
U.S. Patent Application Pub. No. 2013/0117382 A1	May 9, 2013
U.S. Patent Application Pub. No. 2013/0103376 A1	Apr. 25, 2013
U.S. Patent Application Pub. No. 2013/0149994 A1	Jun. 13, 2013

US Patent or Patent Publication	Publication/Issue Date
U.S. Patent Application Pub. No. 2013/0111572 A1	May 2, 2013
U.S. Patent Application Pub. No. 2012/0101952 A1	Apr. 26, 2012
U.S. Patent Application Pub. No. 2013/0183937 A1	Jul. 18, 2013
U.S. Patent Application Pub. No. 2015/0207760 A1	Jul. 23, 2015
International Publication No. WO 2012/047275A1	Apr. 12, 2012
U.S. Patent Application Pub. No. 2012/0101952 A1	Apr. 26, 2012

B. Identification of Prior Art

Verizon identifies the following prior art now known to Verizon that anticipate or render obvious one or more of the Asserted Claims. Each of the following patents, publications, systems, and products is prior art under at least one or more of 35 U.S.C. § 102(a), (b), (e), (f), or (g) (pre-AIA) or § 102(a) (post-AIA), as applicable. Verizon's reliance on each prior art reference identified throughout these Invalidity Contentions includes the reference itself, anything incorporated by the reference, and any testimony by those with knowledge of the reference, such as named authors and inventors. On information and belief, each listed document or item became prior art at least as early as the dates specified.

To the extent any limitation of any of the Asserted Claims is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), with any other claim limitation, and to the extent at least one claim chart in Exhibits A-1 to A-16, B-1 to B-8, C-1 to C-5, D-1 to D-17, and Appendices A-A, B-B, C-C, and D-D hereto identifies any prior art reference as disclosing or teaching such similarly construed claim limitation, such identified prior art reference and Verizon's contentions with respect to same are incorporated by reference. Priority dates identified for the prior art references are based on information currently available to Verizon, and

Verizon will amend this disclosure to the extent additional information becomes available.

To the extent that they are prior art, Verizon reserves the right to rely upon (1) foreign counterparts of the U.S. Patents identified in Verizon's Invalidity Contentions, (2) U.S. counterparts of foreign patents and foreign patent applications identified in Verizon's Invalidity Contentions, and (3) U.S. and foreign patents and patent applications corresponding to articles and publications identified in Verizon's Invalidity Contentions.

The prior art identified below is exemplary; the claimed features are similarly described or disclosed in additional prior art. Thus, Verizon reserves the right to rely on other evidence of the prior art beyond the example references identified herein.

The primary references identified below, and as further described in Exhibits A-1 to A-16, B-1 to B-8, C-1 to C-5, and D-1 to D-17, each discloses, either expressly or inherently, every element of the Asserted Claims, thereby anticipating those claims. To the extent Headwater contends that any primary reference does not anticipate 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 Appendices A-A, B-B, C-C, and D-D.

In particular, for each limitation of the Asserted Claims that Headwater contends is not met by a particular primary reference, Verizon contends that the limitation (and 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 admitted prior art, as explained in the background of each patent or discussed in the file history, (3) any reference identified in Appendices A-A, B-B, C-C, and D-D as disclosing that limitation, and/or (4) 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 Verizon contends

render the Asserted Claims obvious are readily determinable as described herein, which is the most efficient manner of identifying the combinations. Verizon's obviousness grounds for each dependent 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.

Verizon does not yet have the benefit of Headwater's positions on the prior art, including what (if any) elements it contends are missing in each prior art reference, whether Headwater agrees that a reference is in fact prior art, and whether Headwater agrees that a person of ordinary skill in the art would be motivated to combine specific references. Verizon reserves 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. US Patent No. 8,589,541

a. Prior Art Patents and Publications

- US Patent Pub. 2008/0160958 ("Abichandani")
- US Patent Pub. 2009/0217065 ("Araujo")
- US Patent No. 8,347,362 ("Cai")
- US Patent Pub. 2008/0080458 ("Cole")
- US Patent Pub. 2010/0017506 ("Fadell")
- US Patent No. 5,987,611 ("Freund")
- US Patent Pub. 2008/0146268 ("Gandhi")
- European Patent Publication No. 1,484,871 A1 ("Kelz")
- US Patent Pub. 2009/0207817 ("Montemurro")

- US Patent Pub. 2008/0084977 ("Nayak")
- US Patent Pub. 2007/0038763 ("Oestvall")
- US Patent Pub. 2006/0039354 ("Rao")
- US Patent Pub. 2006/0059556 ("Royer")
- US Patent Pub. 20090265752 A1 ("Sharif-Ahmadi")
- US Patent No. 8,381,127 ("Singh")

b. Prior Art Systems

Verizon identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of the '541 Patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the '541 Patent; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the '541 Patent; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the '541 Patent.

Evidence of public use and/or sale of the listed system art includes webpages and downloadable content from the time of the alleged invention, for example the publicly downloadable source code for the Android operating system and publicly available user guides published on or before the launch of each of the Devices, are identified below. Exemplary examples of such webpages and downloadable content have been produced herewith. Discovery is ongoing and Verizon will supplement as discovery continues.

Exemplary Devices
Android Devices, including HTC Dream/T-Mobile G1 (released September 2008); Samsung GT-I7500 Galaxy (released June 2009); T-Mobile myTouch 3G (released July 2009); Motorola Droid (released November 2009); Nexus One (released January 2010); T-Mobile myTouch 3G Slide (released June 2010); and Motorola Droid 2 (released August 2010).

Exemplary Operating Systems
Android, including Android v. 0.9 beta (released August 2008); Android v.1.0 (released September 2008); Android v.1.0r2 (released November 2008); Android v.1.1 (released February 2009); Android Cupcake (v.1.5) (released April 2009); Android v.1.5.r2 (released May 2009); Android v.1.5r3 (released July 2009); Android Donut (v.1.6) (released September 2009); Android Eclair (v.2.0) (released October 2009); and Android Froyo (v.2.2) (released May 2010).

Exemplary Applications
Native Applications on Android v.1.0, including Browser, Dialer, Maps, Messaging, and Music (released September 2008)
Google Voice for Android (released March 2009)
Google Sky Map for Android (released May 2009)
Fring for Android (released November 2009)
JuiceDefender for Android (released January 2010)

c. Prior Invention Under § 102(g)

For any of the prior art that Verizon has identified, Verizon may argue that the authors or inventors of that prior art invented the subject matter claimed in the ’541 Patent prior to the filing date of the ’541 Patent. Discovery has not started and Verizon will supplement as discovery begins.

d. Obviousness and Secondary References

Verizon identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section D.1:

- U.S. Patent Pub. 2010/0110890 A1 (“Rainer”)
- U.S. Patent Pub. 2002/0090928 A1 (“Salzwedel”)
- U.S. Patent Pub. 2006/0223495 A1 (“Cassett”)

- European Patent No. 2,215,873 ("Raissinia")
- U.S. Patent Pub. 2010/0115048 ("Scahill")
- U.S. Patent No. 6,898,654 ("Senior")

2. US Patent No. 8,924,543

a. Prior Art Patents and Publications

- European Patent No. 1,143,665 A2 ("Jain")
- International Publication No. 2008/046326A1 ("Lv")
- U.S. Patent Pub. 2005/0107087 ("Makinen")
- U.S. Patent No. 6,286,052 ("McCloghrie")
- U.S. Patent No. 9,712,331 ("Poh")
- U.S. Patent Pub. 2006/0039354 ("Rao")
- U.S. Patent Pub. 2005/0276262 ("Schuba")
- U.S. Patent No. 8,688,784 ("Zabawskyj")

b. Prior Invention Under § 102(g)

For any of the prior art that Verizon has identified, Verizon may argue that the authors or inventors of that prior art invented the subject matter claimed in the '543 Patent prior to the filing date of the '543 Patent. Discovery has not started and Verizon will supplement as discovery begins.

c. Obviousness and Secondary References

Verizon identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill

in the art would be motivated to combine these references as explained in Section D.2:

- U.S. Patent Pub. 2002/0122422 ("Kenney")
- U.S. Patent Pub. 2009/0100506 ("Whang")
- U.S. Patent Pub. 2007/0061433 ("Reynolds")
- U.S. Patent Pub. 2008/0059635 ("Seiforth")
- European Patent Publication No. 1,617,642 A2
- International Patent Pub. No. 2011/042903 ("Pogorelik")
- U.S. Patent No. 7,933,221 ("Pawar")
- U.S. Patent Pub. 2007/0037731 ("Whewell")
- Universal Mobile Telecommunications System, IP Multimedia Subsystem emergency sessions (3GPP TS 23.167 v. 7.4.0 release 7) ("UMTS")

3. US Patent No. 9,198,042

a. Prior Art Patents and Publications

- U.S. Patent Pub. 2007/0288989 ("Aarnos")
- U.S. Patent Pub. 2006/0223495 ("Cassett")
- U.S. Patent Pub. 2007/0021113 ("Hamasaki")
- U.S. Patent Pub. 2007/0006289 ("Limont")
- U.S. Patent Pub. 2006/0183461 ("Pearce")

b. Prior Invention Under § 102(g)

For any of the prior art that Verizon has identified, Verizon may argue that the authors or inventors of that prior art invented the subject matter claimed in the '042 Patent prior to the filing date of the '042 Patent. Discovery has not started and Verizon will supplement as discovery begins.

c. Obviousness and Secondary References

Verizon identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section D.3:

- U.S. Patent Pub. 2009/0300596 ("Tyhurst")
- U.S. Patent Pub. 2010/0099405 ("Brisebois")
- U.S. Patent Pub. 2008/0163334 ("Perich")
- U.S. Patent No. 8,966,075 ("Chickering")
- U.S. Patent Pub. 2002/0144151 ("Shell")

4. US Patent No. 9,215,613

a. Prior Art Patents and Publications

- US Patent Pub. 2008/0160958 ("Abichandani")
- US Patent Pub. 2009/0217065 ("Araujo")
- US Patent No. 8,347,362 ("Cai")
- US Patent Pub. 2008/0080458 ("Cole")
- US Patent Pub. 2010/0017506 ("Fadell")
- US Patent No. 5,987,611 ("Freund")
- US Patent Pub. 2008/0146268 ("Gandhi")
- European Patent Publication No. 1,484,871 A1 ("Kelz")
- US Patent Pub. 2009/0207817 ("Montemurro")
- US Patent Pub. 2008/0084977 ("Nayak")

- US Patent Pub. 2007/0038763 ("Oestvall")
- US Patent Pub. 2006/0039354 ("Rao")
- US Patent Pub. 2006/0059556 ("Royer")
- US Patent Pub. 20090265752 A1 ("Sharif-Ahmadi")
- US Patent No. 8,381,127 ("Singh")
- US Patent No. 8,028,060 ("Wyld")

b. Prior Art Systems

Verizon identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of the '613 Patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the '613 Patent; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the '613 Patent; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the '613 Patent.

Evidence of public use and/or sale of the listed system art includes webpages and downloadable content from the time of the alleged invention, for example the publicly downloadable source code for the Android operating system and publicly available user guides published on or before the launch of each of the Devices, are identified below. Exemplary examples of such webpages and downloadable content have been produced herewith. Discovery is ongoing and Verizon will supplement as discovery continues.

Exemplary Devices
Android Devices, including HTC Dream/T-Mobile G1 (released September 2008); Samsung GT-I7500 Galaxy (released June 2009); T-Mobile myTouch 3G (released July 2009); Motorola Droid (released November 2009); Nexus One (released January 2010); T-Mobile myTouch 3G Slide (released June 2010); and Motorola Droid 2 (released August 2010).

Exemplary Operating Systems
Android, including Android v.0.9 beta (released August 2008); Android v.1.0 (released September 2008); Android v.1.0r2 (released November 2008); Android v.1.1 (released February 2009); Android Cupcake (v.1.5) (released April 2009); Android v.1.5r2 (released May 2009); Android v.1.5r3 (released July 2009); Android Donut (v.1.6) (released September 2009); Android Eclair (v.2.0) (released October 2009); and Android Froyo (v.2.2) (released May 2010).

Exemplary Applications
Native Applications on Android v.1.0, including Browser, Dialer, Maps, Messaging, and Music (released September 2008)
Google Voice for Android (released March 2009)
Google Sky Map for Android (released May 2009)
Fring for Android (released November 2009)
JuiceDefender for Android (released January 2010)

c. Prior Invention Under § 102(g)

For any of the prior art that Verizon has identified, Verizon may argue that the authors or inventors of that prior art invented the subject matter claimed in the ’541 Patent prior to the filing date of the ’613 Patent. Discovery has not started and Verizon will supplement as discovery begins.

d. Obviousness and Secondary References

Verizon identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section D.4:

- European Patent No. 2,215,873 (“Raissinia”)
- U.S. Patent Pub. 2010/0115048 (“Scahill”)
- U.S. Patent No. 6,898,654 (“Senior”)
- International Patent Publication WO 2008/046212 A1 (“McDonald”)

- U.S. Patent No. 7,069,330 ("McArdle")
- U.S. Patent Pub. 2005/0100000 ("Faulkner")
- U.S. Patent Pub. 2006/0084417 A1 ("Melpignano")

C. Claim Charts

Charts specifically identifying where each element of each Asserted Claim is found in the prior art, either expressly or inherently, are found in Exhibits A-1 to A-16, B-1 to B-8, C-1 to C-5, D-1 to D-17, and Appendices A-A, B-B, C-C, and D-D. However, this prior art is exemplary; the claimed features are similarly described or disclosed in other prior art.

In the claim charts included in this disclosure, Verizon identifies specific portions of prior art references that disclose or render obvious the elements of the Asserted Claims. Although Verizon has identified at least one citation per element, each and every disclosure of the same element in a given reference is not necessarily identified. That Verizon did not identify each similar disclosure should not be construed as a concession by Verizon that such disclosure is not relevant. It should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would rely upon other information including other publications and general scientific or engineering knowledge.

Where Verizon identifies 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 specification and prosecution history in addition to the figure itself. Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

Certain pieces of identified prior art disclose features of the Asserted Claims inherently. Verizon may rely on any evidence, including expert testimony, to establish the inherency of certain features of the prior art to invalidate the Asserted Claims.

D. Motivations to Combine Prior Art

Verizon believes that no showing of a specific motivation to combine prior art is required to combine the references disclosed in the attached charts; there was a reason to make each combination, each combination of art would have produced no unexpected results, and each combination at most would simply represent a known alternative to one of ordinary skill in the art. *See KSR Int'l Co. v. Teleflex, Inc*., 550 U.S. 398, 414–18 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like a pieces of a puzzle." *Id*. at 420–21.

In view of *KSR*, the PTO issued a set of new Examination Guidelines. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 72 Fed. Reg. 57,526 (Oct. 10, 2007). Those Guidelines identified various rationales for finding a claim obvious, including:

a) Combining prior art elements according to known methods to yield predictable results;

b) Simple substitution of one known element for another to obtain predictable results;

c) Use of known technique to improve similar devices (methods, or products) in the same way;

d) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

e) "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

f) 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;

g) 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.

Id. at 57,529.

In addition, the motivation to combine or modify prior art references is significantly stronger when, as here, the references seek to solve the same problem, come from the same field, and correspond well. *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").

Verizon has identified several exemplary motivations and reasons to combine the various references cited herein, and those motivations would have been supported, in part, by a reasonable expectation of success. The various teachings, suggestions, and/or reasons to modify any of the references and/or to combine any two or more of the references in Exhibits A-1 to A-16, B-1 to B-8, C-1 to C-5, D-1 to D-17, and Appendices A-A, B-B, C-C, and D-D come from various sources, including the prior art (specific and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced, and/or the knowledge possessed by one of ordinary skill in the art. In addition, it would have been obvious to try combining the prior art references identified above.

These exemplary combinations demonstrate that there were only a finite number of

predictable solutions to known problems addressed by the Asserted Patents. Furthermore, known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. The combination of features found in the prior art references identified in these contentions would have been obvious because the claimed combinations represent the known potential options, with each such option having a reasonable expectation of success. Additionally, one of ordinary skill in the art would have been motivated to create combinations identified in these contentions using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. Also, market forces in the industry, and the desire to improve features and performance, would motivate the addition of features to systems as they become available, become less expensive, become more commonly used, provide better performance and reliability, reduce costs, or predictably achieve other clearly desirable results.

To the extent Headwater alleges that any other claimed limitation or limitations are not disclosed in any primary reference, it would have been obvious to combine the teachings of the reference with the background knowledge of a person of ordinary skill in the art and/or it would have been obvious to incorporate the missing limitation(s), including as disclosed in Exhibits A-1 to A-16, B-1 to B-8, C-1 to C-5, D-1 to D-17, and Appendices A-A, B-B, C-C, and D-D into the primary reference for the reasons disclosed herein. For example, one of ordinary skill in the art would have found substantial motivation to combine one or more of the primary references with one more of each other or the secondary references in order to disclose the alleged inventions recited in the Asserted Claims. Each of the references disclosed herein as invalidating an Asserted Patent was directed at the same or similar field of technology and the same or similar problem as

that Asserted Patent. To the extent Headwater alleges that any particular claim limitation is not disclosed or inherent in the charted references, it would have been obvious to combine the charted reference with one or more of the references identified herein for the particular claim limitations. Also, as Verizon is currently unaware of the extent, if any, to which Headwater will contend that limitations of the Asserted Claims are not disclosed in the art identified herein as anticipatory, Verizon reserves the right to identify other references and combinations that may render an allegedly missing limitation obvious. In addition, if and to the extent that Headwater challenges the relevance of any of these references with respect to particular limitations of the Asserted Claims of the Asserted Patents, Verizon reserves its right to identify further motivation to combine particular references with additional particularity.

1. US Patent No. 8,589,541

a. Exemplary Combinations of Primary References

Verizon identifies below an exemplary list of anticipated combinations of the primary references identified above for the ’541 Patent. Verizon offers these exemplary combinations for the purposes of illustration only and without and inference or admission that any such references are required to be combined as illustrated below to disclose any Asserted Claim of the ’541 Patent. In providing these exemplary combinations, Verizon reserves all rights to assert that any primary reference, alone or in combination with any other primary reference, secondary reference, or reference disclosing the state of the art, anticipates or renders obvious the Asserted Claims of the ’541 Patent.

- Rao in combination with Nayak
- Rao in combination with Nayak and Abichandani
- Rao in combination with Nayak and Fadell

- Rao in combination with Montemurro
- Rao in combination with Nayak and Montemurro
- Rao in combination with Abichandani
- Rao in combination with Fadell
- Nayak in combination with Abichandani
- Nayak in combination with Fadell

b. Exemplary Motivations to Combine

Verizon has identified several exemplary motivations and reasons to combine the various references cited herein. For any reference for which there is a claim element that does not have a corresponding citation in that reference, it would be obvious to combine with the knowledge or a person of skill and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

It would have been obvious to combine each of the references discussed below because they are analogous art generally directed to management of data usage by wireless devices. For example:

- A person of ordinary skill would have been motivated to combine Rao with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Rao with references that disclose management of data usage by wireless devices. (*see, e.g.*,

Nayak, Abichandani, Fadell, Montemurro, Royer, Cole, Freund, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Rao discloses methods for "application-aware, client-specific prioritization of packet traffic" from a wireless device over a wireless network, and acknowledges that "[o]ne ordinarily skilled in the art will recognize and appreciate the multitude of ways to define client-side application priorities." Rao at [0003], [0182]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Rao to provide a variety of means and methods for prioritization of application traffic over a wireless network.

- A person of ordinary skill would have been motivated to combine Nayak with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Nayak with references that disclose management of data usage by wireless devices. (*see, e.g.*, Rao, Abichandani, Fadell, Montemurro, Royer, Cole, Freund, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Nayak identifies the problem, in the context of receiving "contact

information" from an application on a wireless device, that "[d]uring periods when the user is not interested in receiving the contact information, the receipt of contact presence information can increase data usage on the network, which can potentially cause congestion on the network." Nayak at [0002]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Nayak to address the issue of wireless network congestion.

- A person of ordinary skill would have been motivated to combine Montemurro with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Montemurro with references that disclose management of data usage by wireless devices. (*see, e.g.*, Rao, Nayak, Abichandani, Fadell, Royer, Cole, Freund, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Montemurro discloses methods "to optimize communications using a policy-based mechanism to configure connections and routes" over a wireless network, and highlights that these "[p]olicies may be responsive to various factors." Montemurro at [0011]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Montemurro to provide a variety of means and methods for prioritization of application traffic over a wireless network.

- A person of ordinary skill would have been motivated to combine Abichandani with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Abichandani with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Rao, Fadell, Montemurro, Royer, Cole, Freund, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Abichandani discloses methods for "for controlling access to mobile applications from the mobile device based on access conditions associated with a current access network" using "a policy or application access database." Abichandani at [0004]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Abichandani given the substantial overlap in methods addressing congestion in wireless networks.
- A person of ordinary skill would have been motivated to combine Cole with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Cole with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Fadell, Montemurro, Royer, Rao, Freund, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because

they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Cole discloses the use of a "connection manager" to selectively permit applications to communicate over wireless networks based on classifications of the application and available networks. Cole at [0036]. Indeed, Cole acknowledges that "the various protocols required" to implement the "connection manager" would be "known to those ordinary skill in the art." *Id.* at [0035]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Cole.

- A person of ordinary skill would have been motivated to combine Freund with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Freund with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Fadell, Montemurro, Royer, Cole, Rao, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Freund discloses methods for "client-based monitoring and filtering of access" using a "centralized enforcement supervisor." Freund at Abstract. As such, a person of ordinary skill would have recognized that the exemplary teachings cited

in Exhibits A-1 to A-16 could be combined with Freund given their relevant disclosures related to client-side management of data usage by a wireless device.

- A person of ordinary skill would have been motivated to combine Fadell with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Fadell with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Freund, Montemurro, Royer, Cole, Rao, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Fadell discloses the use of a "resource utilization component" on an electronic device, such as a wireless device, "to adjust the resource consumption of the electronic device." Fadell at [0022]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Fadell given their relevant disclosures related to client-side management of data usage by a wireless device.
- A person of ordinary skill would have been motivated to combine Kelz with the exemplary citations and commentary provided in Exhibits A-1 to A-16 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Kelz with references that disclose management of data usage by wireless devices. (*see, e.g.*,

Nayak, Abichandani, Freund, Montemurro, Royer, Cole, Rao, Fadell, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Kelz discloses the use of a "controller module" in a mobile device to interface between the "applications that are implemented on the mobile device and the protocol stacks" and to "priorit[ize]" certain traffic from certain applications over others. Kelz at [0006]–[0007]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits A-1 to A-16 could be combined with Kelz given their relevant disclosures related to client-side management of data usage by a wireless device.

2. US Patent No. 8,924,543

a. Exemplary Combinations

Verizon identifies below an exemplary list of anticipated combinations of the primary references identified above for the '543 Patent. Verizon offers these exemplary combinations for the purposes of illustration only and without and inference or admission that any such references are required to be combined as illustrated below to disclose any Asserted Claim of the '543 Patent. In providing these exemplary combinations, Verizon reserves all rights to assert that any primary reference, alone or in combination with any other primary reference, secondary reference, or reference disclosing the state of the art, anticipates or renders obvious the Asserted Claims of the '543 Patent.

- Rao in combination with Zabawskyj
- Rao in combination with Poh and Schuba

- Rao in combination with Lv, Poh, and Schuba
- McCloghrie in combination with Poh and Schuba
- McCloghrie in combination with Lv, Poh, and Schuba
- Makinen in combination with Poh and Schuba
- Makinen in combination with Lv, Poh, and Schuba
- Jain in combination with Poh and Schuba
- Jain in combination with Lv, Poh, and Schuba
- Zabawskyj in combination with Poh and Schuba
- Zabawskyj in combination with Lv, Poh, and Schuba
- Lv in combination with Poh and Schuba
- Lv in combination with Schuba

b. Exemplary Motivations to Combine

Verizon has identified several exemplary motivations and reasons to combine the various references cited herein. For any reference for which there is a claim element that does not have a corresponding citation in that reference, it would be obvious to combine with the knowledge or a person of skill and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

It would have been obvious to combine each of the references discussed below because they are analogous art generally directed to network management in a wireless communication system. For example:

- A person of ordinary skill would have been motivated to combine Rao with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Rao with references that disclose network management and policy application. (*see, e.g.*, McCloghrie, Makinen, Jain, Zabawskyj, Lv, Poh, and Schuba). A person of ordinary skill would have been motivated to combine these references because they are directed to network traffic management, and specifically methods for managing and prioritizing traffic flows based on network policies. For instance, Rao discloses methods for network management where "network packets are communicated . . . according to the determined priorities" and acknowledges that "[o]ne ordinarily skilled in the art will recognize and appreciate that . . . the present invention will communicate the network packets from the queues in a manner according to or consistent with the determined priorities, which in turn, may be based or derived from the policies of the client." Rao at [0194]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Rao to provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.
- A person of ordinary skill would have been motivated to combine McCloghrie with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from McCloghrie with references that disclose network management and policy application. (*see, e.g.*, Rao, Makinen, Jain, Zabawskyj, Lv, Poh, and Schuba). A person

of ordinary skill would have been motivated to combine these references because they are directed to network management, and specifically methods for managing and prioritizing traffic flows based on network policies. For instance, McCloghrie discloses methods "for identifying specific traffic flows originating from a network entity and for applying predetermined policy or service treatments to those flows." McCloghrie at 4:34-37. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with McCloghrie to provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.

- A person of ordinary skill would have been motivated to combine Makinen with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Makinen with references that disclose network management and policy application. (*see, e.g.*, Rao, McCloghrie, Jain, Zabawskyj, Lv, Poh, and Schuba). A person of ordinary skill would have been motivated to combine these references because they are directed to network traffic management, and specifically methods for managing network policies using traffic plans. For instance, Makinen discloses methods for "managing services in a telecommunication system," where the method "may comprise providing common traffic category groups; providing for said common traffic categories information as to how the respective common traffic categories are to be treated in said network." Makinen at [0001], [0021]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Makinen to

provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.

- A person of ordinary skill would have been motivated to combine Jain with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Jain with references that disclose network management and policy application. (*see, e.g.*, Rao, McCloghrie, Makinen, Zabawskyj, Lv, Poh, and Schuba). A person of ordinary skill would have been motivated to combine these references because they are directed to network traffic management, and specifically methods for managing network policies using traffic plans. For instance, Jain discloses methods for "efficient, integrated and scalable policy management services for . . . networks," where the method may include "[a]n order number attribute 726 for the policy rule [that] indicates the sequence in which the policy is to be applied." Jain at [0001], [0070]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Jain to provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.
- A person of ordinary skill would have been motivated to combine Zabawskyj with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Zabawskyj with references that disclose network management and policy application. (*see, e.g.*, Rao, McCloghrie, Makinen, Jain, Lv, Poh, and Schuba). A person

of ordinary skill would have been motivated to combine these references because they are directed to network traffic management, and specifically methods for managing network policies using traffic plans. For instance, Zabawskyj discloses methods for "generating a traffic plan" that "inspect[s] the packets forming the request to access service" and "obtain policy information relative to the terms of use of service" for telecommunication networks. Zabawskyj at [0008], [0089]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Zabawskyj to provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.

- A person of ordinary skill would have been motivated to combine Lv with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Lv with references that disclose network management and policy application. (*see, e.g.*, Rao, McCloghrie, Makinen, Jain, Zabawskyj, Poh, Schuba). A person of ordinary skill would have been motivated to combine these references because they are directed to network traffic management, and specifically methods for managing network policies using traffic plans. For instance, Lv discloses methods for "controlling network services" through "the policy control mechanism based on service and user subscription information," where the method may include performing "corresponding policy scheduling on the data flow according to the obtained deep packet inspection policy, such as priority marking." Lv at 1:6, 1:14-29, 6:25-26. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Lv to provide a

variety of means and methods for prioritization of network traffic for policy management in a wireless network.

- A person of ordinary skill would have been motivated to combine Poh with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Poh with references that disclose network management and policy application. (*see, e.g.*, Rao, McCloghrie, Makinen, Jain, Zabawskyj, Lv, Schuba). A person of ordinary skill would have been motivated to combine these references because they are directed to network traffic management, and specifically methods for managing network policies using traffic plans. For instance, Poh discloses methods for "a policy configuration and provisioning system for a policy realization framework on a communications network," where the method may include "resolving the policy conflict by giving precedence to the first policy over the second policy." Poh at 3:8-9, 26:14-15. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Poh to provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.
- A person of ordinary skill would have been motivated to combine Schuba with the exemplary citations and commentary provided in Exhibits B-1 to B-8 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Schuba with references that disclose network management and policy application. (*see, e.g.*, Rao, McCloghrie, Makinen, Jain, Zabawskyj, Lv, Poh). A person

of ordinary skill would have been motivated to combine these references because they are directed network traffic management, and specifically methods for managing network policies using traffic plans. For instance, Schuba discloses methods for "network flow policy enforcement," where the method may include using a "flow manager" that receives "prioritized packet flow rules" to generate "a unified rule set" according to the "priority policy." Schuba at Abstract, [0027]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits B-1 to B-8 could be combined with Schuba to provide a variety of means and methods for prioritization of network traffic for policy management in a wireless network.

3. US Patent No. 9,198,042

a. Exemplary Combinations

Verizon identifies below an exemplary list of anticipated combinations of the primary references identified above for the '042 Patent. Verizon offers these exemplary combinations for the purposes of illustration only and without and inference or admission that any such references are required to be combined as illustrated below to disclose any Asserted Claim of the '042 Patent. In providing these exemplary combinations, Verizon reserves all rights to assert that any primary reference, alone or in combination with any other primary reference, secondary reference, or reference disclosing the state of the art, anticipates or renders obvious the Asserted Claims of the '042 Patent.

- Limont in combination with Cassett
- Limont in combination with Hamasaki and Cassett
- Hamasaki in combination with Cassett
- Pearce in combination with Cassett

- Pearce in combination with Limont and Cassett
- Aarnos in combination with Cassett
- Aarnos in combination with Limont and Cassett

b. Exemplary Motivations to Combine

Verizon has identified several exemplary motivations and reasons to combine the various references cited herein. For any reference for which there is a claim element that does not have a corresponding citation in that reference, it would be obvious to combine with the knowledge or a person of skill and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

It would have been obvious to combine each of the references discussed below because they are analogous art generally directed to policy management in a wireless communication system. For example:

- A person of ordinary skill would have been motivated to combine Cassett with the exemplary citations and commentary provided in Exhibits C-1 to C-5 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Cassett with references about device policy management. (*see, e.g.*, Limont, Hamasaki, Pearce, Aarnos). A person of ordinary skill would have been motivated to combine these references because they are directed to methods for updating end-user device network policies based on end-user device status. For

instance, Cassett discloses methods "to monitor and log wireless device usage data that may be used to generate usage pattern reports," which may be used "to make informed decisions regarding products and services to provide to the device, and/or network design relating to the usage of the device." Cassett at [0006]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits C-1 to C-5 could be combined with Cassett to provide a variety of means and methods for update network policies on an end-user device in a wireless network.

- A person of ordinary skill would have been motivated to combine Limont with the exemplary citations and commentary provided in Exhibits C-1 to C-5 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Limont with references about device policy management. (*see, e.g.*, Cassett, Hamasaki, Pearce, Aarnos). A person of ordinary skill would have been motivated to combine these references because they are directed to methods for updating end-user device network policies based on end-user device status. For instance, Limont discloses methods to "enforce device settings for mobile devices," where the method may include "reciev[ing] a data command from a mobile device . . . representing the current policy settings" and then "send[ing] the updated policy settings . . . to the mobile device." Limont at [0016], [0030], [0031]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits C-1 to C-5 could be combined with Limont to provide a variety of means and methods to update network policies on an end-user device in a wireless network.
- A person of ordinary skill would have been motivated to combine Hamasaki with the

exemplary citations and commentary provided in Exhibits C-1 to C-5 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Hamasaki with references about device policy management. (*see, e.g.*, Cassett, Limont, Pearce, Aarnos). A person of ordinary skill would have been motivated to combine these references because they are directed to methods for updating end-user device network policies based on end-user device status. For instance, Hamasaki discloses methods for "device management operations on electric devices," particularly in the roaming context. Hamasaki at [0010]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits C-1 to C-5 could be combined with Hamasaki to provide a variety of means and methods to update network policies on an end-user device in a wireless network.

- A person of ordinary skill would have been motivated to combine Pearce with the exemplary citations and commentary provided in Exhibits C-1 to C-5 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Pearce with references about device policy management. (*see, e.g.*, Cassett, Hamasaki, Limont, Aarnos). A person of ordinary skill would have been motivated to combine these references because they are directed to methods for updating end-user device network policies based on end-user device status. For instance, Pearce discloses methods "modifying policy settings in an electronic device" based on the user's geographic region. Pearce at [0001], [0007]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits C-

1 to C-5 could be combined with Pearce to provide a variety of means and methods to update network policies on an end-user device in a wireless network.

- A person of ordinary skill would have been motivated to combine Aarnos with the exemplary citations and commentary provided in Exhibits C-1 to C-5 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Aarnos with references about device policy management. (*see, e.g.*, Cassett, Hamasaki, Pearce, Limont). A person of ordinary skill would have been motivated to combine these references because they are directed to methods for updating end-user device network policies based on end-user device status. For instance, Aarnos discloses methods for "updating a security policy associated with an electronic device." Aarnos at [0010]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits C-1 to C-5 could be combined with Aarnos to provide a variety of means and methods to update network policies on an end-user device in a wireless network.

4. US Patent No. 9,215,613

a. Exemplary Combinations of Primary References

Verizon identifies below an exemplary list of anticipated combinations of the primary references identified above for the '613 Patent. Verizon offers these exemplary combinations for the purposes of illustration only and without and inference or admission that any such references are required to be combined as illustrated below to disclose any Asserted Claim of the '613 Patent. In providing these exemplary combinations, Verizon reserves all rights to assert that any primary reference, alone or in combination with any other primary reference, secondary reference, or reference disclosing the state of the art, anticipates or renders obvious the Asserted Claims of the

’613 Patent.

- Rao in combination with Nayak
- Rao in combination with Nayak and Abichandani
- Rao in combination with Nayak and Fadell
- Rao in combination with Montemurro
- Rao in combination with Nayak and Montemurro
- Rao in combination with Abichandani
- Rao in combination with Fadell
- Nayak in combination with Abichandani
- Nayak in combination with Fadell

b. Exemplary Motivations to Combine

Verizon has identified several exemplary motivations and reasons to combine the various references cited herein. For any reference for which there is a claim element that does not have a corresponding citation in that reference, it would be obvious to combine with the knowledge or a person of skill and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

It would have been obvious to combine each of the references discussed below because they are analogous art generally directed to management of data usage by wireless devices. For example:

- A person of ordinary skill would have been motivated to combine Rao with the exemplary

citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Rao with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Fadell, Montemurro, Royer, Wyld, Cole, and Freund). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Rao discloses methods for "application-aware, client-specific prioritization of packet traffic" from a wireless device over a wireless network, and acknowledges that "[o]ne ordinarily skilled in the art will recognize and appreciate the multitude of ways to define client-side application priorities." Rao at [0003], [0182]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Rao to provide a variety of means and methods for prioritization of application traffic over a wireless network.

- A person of ordinary skill would have been motivated to combine Nayak with the exemplary citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Nayak with references that disclose management of data usage by wireless devices. (*see, e.g.*, Rao, Abichandani, Fadell, Montemurro, Royer, Wyld, Cole, and Freund). A person of ordinary skill would have been motivated to combine these

references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Nayak identifies the problem, in the context of receiving "contact information" from an application on a wireless device, that "[d]uring periods when the user is not interested in receiving the contact information, the receipt of contact presence information can increase data usage on the network, which can potentially cause congestion on the network." Nayak at [0002]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Nayak to address the issue of wireless network congestion.

- A person of ordinary skill would have been motivated to combine Montemurro with the exemplary citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Montemurro with references that disclose management of data usage by wireless devices. (*see, e.g.*, Rao, Nayak, Abichandani, Fadell, Royer, Wyld, Cole, and Freund). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Montemurro discloses methods "to optimize communications using a policy-based mechanism to configure connections and routes" over a wireless network, and highlights that these "[p]olicies may be responsive to various factors."

Montemurro at [0011]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Montemurro to provide a variety of means and methods for prioritization of application traffic over a wireless network.

- A person of ordinary skill would have been motivated to combine Abichandani with the exemplary citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Abichandani with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Rao, Fadell, Montemurro, Royer, Wyld, Cole, and Freund). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Abichandani discloses methods for "for controlling access to mobile applications from the mobile device based on access conditions associated with a current access network" using "a policy or application access database." Abichandani at [0004]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Abichandani given the substantial overlap in methods addressing congestion in wireless networks.
- A person of ordinary skill would have been motivated to combine Cole with the exemplary citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person

of ordinary skill in the art would have been motivated to combine the teachings from Cole with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Fadell, Montemurro, Royer, Wyld, Rao, and Freund). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Cole discloses the use of a "connection manager" to selectively permit applications to communicate over wireless networks based on classifications of the application and available networks. Cole at [0036]. Indeed, Cole acknowledges that "the various protocols required" to implement the "connection manager" would be "known to those ordinary skill in the art." *Id.* at [0035]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Cole.

- A person of ordinary skill would have been motivated to combine Freund with the exemplary citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Freund with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Fadell, Montemurro, Royer, Wyld, Cole, and Rao). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as

classification of the application and classification of the available wireless networks. For instance, Freund discloses methods for "client-based monitoring and filtering of access" using a "centralized enforcement supervisor." Freund at Abstract. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Freund given their relevant disclosures related to client-side management of data usage by a wireless device.

- A person of ordinary skill would have been motivated to combine Fadell with the exemplary citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Fadell with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Freund, Montemurro, Royer, Cole, Rao, Kelz, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Fadell discloses the use of a "resource utilization component" on an electronic device, such as a wireless device, "to adjust the resource consumption of the electronic device." Fadell at [0022]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Fadell given their relevant disclosures related to client-side management of data usage by a wireless device.
- A person of ordinary skill would have been motivated to combine Kelz with the exemplary

citations and commentary provided in Exhibits D-1 to D-17 to yield the claimed invention, and would have had a reasonable expectation of success in doing so. For example, a person of ordinary skill in the art would have been motivated to combine the teachings from Kelz with references that disclose management of data usage by wireless devices. (*see, e.g.*, Nayak, Abichandani, Freund, Montemurro, Royer, Cole, Rao, Fadell, and Sharif-Amadi). A person of ordinary skill would have been motivated to combine these references because they are directed to wireless communication systems, and specifically methods for managing wireless-device application access to wireless networks based on factors such as classification of the application and classification of the available wireless networks. For instance, Kelz discloses the use of a "controller module" in a mobile device to interface between the "applications that are implemented on the mobile device and the protocol stacks" and to "priorit[ize]" certain traffic from certain applications over others. Kelz at [0006]–[0007]. As such, a person of ordinary skill would have recognized that the exemplary teachings cited in Exhibits D-1 to D-17 could be combined with Kelz given their relevant disclosures related to client-side management of data usage by a wireless device.

E. Prior Art Under 35 U.S.C. §§ 102(f) and 102(g)

Each prior art patent, publication, or product identified above was either effectively filed or issued (for patents), published (for publications) or known, used, offered for sale or sold (for products) before either the earliest claimed priority date of the Asserted Patents to which it is applied for invalidity, and none appears to have been abandoned, suppressed, or concealed, so each such reference also constitutes evidence of prior invention pursuant to 35 U.S.C. § 102(g), if it is in the U.S. The persons or entities involved with each such invention include the named inventors on the above-identified patents, the authors listed on the above-identified publications, and the

entities and individuals identified in connection with the above-identified products.

Verizon does not yet have the benefit of discovery from Headwater, including taking depositions of the named inventors of the Asserted Patents, reviewing Headwater's productions, and seeking discovery of prior inventions by third parties, Verizon reserves the right to supplement these Invalidity Contentions with facts, documents, or other information learned at a later point through discovery or further investigation.

III. INVALIDITY UNDER 35 U.S.C. § 112

A. INVALIDITY UNDER 35 U.S.C. § 112, ¶ 1

Verizon alleges that the Asserted Claims are invalid under 35 U.S.C. § 112 for failing to satisfy the written description and enablement requirements (Section 112, ¶ 1). Verizon reserves all rights to amend its Invalidity Contentions under 35 U.S.C. § 112, including after the Asserted Claims are ultimately construed by the Court, in response to any interpretation of the Asserted Claims embodied in Headwater's infringement positions, and/or to account for any changes in the law concerning invalidity under 35 U.S.C. § 112. Verizon also reserves the right to provide additional explanation and/or argument for its Invalidity Contentions under Section 112, including, for example, based on expert testimony. Verizon's contentions that the Asserted Claims are invalid under Section 112 are not admissions regarding the construction or scope of the claims of the Asserted Patents, or that any of the claims of the Asserted Patents are not anticipated or rendered obvious by any prior art. All of the below statements are by way of example only. Any item disclosed below with respect to any patent or claim may, as appropriate, be asserted as a defense against any other patent or claim that has a similar claim limitation and patent disclosure.

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." *Boston 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*); *Boston Scientific*, 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). In other words, the claims must be enabled over their entire claimed range. *See id.* (finding lack of enablement because the "claim [] [was] broader than the enablement as taught in the specification").

Verizon contends that the following Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 1. Each Asserted Claim identified below (and each Asserted Claim that depends therefrom) is invalid under Section 112, ¶ 1 because the specification of the Asserted Patent fails to provide a sufficient written description, and/or enabling disclosure. For each listed term or phrase, Verizon believes the term or phrase is invalid under Section 112, ¶ 1, as is any limitation including such terms or phrases, for the same reason(s).

Verizon further contends that Headwater's apparent claim constructions render the Asserted Claims extremely broad in scope and well beyond the purported inventions described in the Asserted Patents. Based on a review of Headwater's Infringement Contentions, Headwater is

attempting to construe the Asserted Patents in an idiosyncratic manner that is entirely inconsistent with the written specifications and prosecution histories of the Asserted Patents as well as with the understanding of one of ordinary skill in the art at the time the applications that issued as the Asserted Patents were filed. These allegations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history.

The Asserted Claims are invalid because the specifications of the Asserted Patents do not include sufficient written description of the purported inventions allegedly claimed in the Asserted Patents, and the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use any of the allegedly claimed inventions, 35 U.S.C. § 112, ¶ 1.

Moreover, the patent applications that issued as the Asserted Patents did not contain a written description of the purported invention sufficiently clear and complete to enable one of ordinary skill in the art to which the purported invention pertains to make and use the invention as claimed without undue experimentation. *Id.* To the extent any of the Asserted Claims are found to cover one or more of the accused products identified in Headwater's Infringement Contentions, such Asserted Claims are also invalid under 35 U.S.C. § 112, ¶ 1 because their full scope is not enabled by the specifications of the relevant Asserted Patents.

1. US Patent No. 8,589,541

Verizon contends that the full scope of each Asserted Claims of the '541 Patent are not described with particularity in the specification to which priority is sought, so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '541 Patent is invalid for lack of adequate written description and/or enablement under 35 U.S.C. § 112, ¶ 1, based at least on the following claim terms/phrases:

- "prospective or successful communication" (all Asserted Claims)
- "background activity" (all Asserted Claims)
- "an aspect of a policy" (all Asserted Claims)
- "information from a network element" (all Asserted Claims)
- "performs a proxy function" (claims 10 and 11, and dependents)
- "proxy service" (claims 13, 14, and 23, and dependents)
- "user interface foreground" (claim 45, and dependents)
- "foreground activity" (claim 49, and dependents)
- "foreground component" (claims 50 and 56, and dependents)
- "provide second information to the first software component" (claim 65, and dependents)
- "provide third information to a second software component" (claim 67, and dependents)
- "notification" (claims 77, 78, 91, 118, 149, and dependents)

Further, under at least the claim interpretations upon which Headwater apparently relies for its infringement assertions, the Asserted Claims would be invalid for failure to satisfy the written description and/or enablement requirements because they would be drawn to subject matter that exceeds or otherwise differs from that which one of ordinary skill in the art would understand the named inventors to have had in their possession. Headwater's infringement allegations require numerous claim terms to be interpreted more broadly than the Asserted Patents disclose or enable. A person of skill in the art, upon reviewing the patents and the claims, would not consider the technology that Plaintiff seeks to cover in its infringement contentions to be in the possession of the inventors.

2. US Patent No. 8,924,543

Verizon contends that the full scope of each Asserted Claims of the '543 Patent are not

described with particularity in the specification to which priority is sought, so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '543 Patent is invalid for lack of adequate written description and/or enablement under 35 U.S.C. § 112, ¶ 1, based at least on the following claim terms/phrases:

- "network service plan provisioning system" (all Asserted Claims)
- "service plan component" (all Asserted Claims)
- "traffic classification filter" (all Asserted Claims)
- "characteristic" (all Asserted Claims)
- "network traffic inspection system" (all Asserted Claims)
- "network policy enforcement system" (all Asserted Claims)
- "network inspection provisioning instructions" (all Asserted Claims)
- "order traffic inspection comparison operations" (claim 2 and dependents)
- "determine whether the traffic event possesses the characteristic that matches the first traffic classification filter before determining whether the traffic event possesses the characteristic that matches the second traffic classification filter" (claims 2, 5, 36 and dependents)
- "determine whether the traffic event possesses the characteristic that matches the second traffic classification filter only if the traffic event does not possess the characteristic that matches the first traffic classification filter" (claim 3 and dependents)
- "determine whether the traffic event also possesses the characteristic that matches the second traffic classification filter if the traffic event possesses the characteristic that matches the first traffic classification filter" (claim 4 and dependents)

- "service buy page notification" (claim 16 and dependents)
- "the first service plan component further comprises an additional policy enforcement action to augment the first policy enforcement action, and wherein the second service plan component further comprises the additional policy enforcement action to augment the second policy enforcement action" (claim 22)
- "the first service plan component further comprises an additional policy enforcement action to over-ride the first policy enforcement action, and wherein the second service plan component further comprises the additional policy enforcement action to over-ride the second policy enforcement action" (claim 23)
- "composite-plan policy" (claims 28 and 29 and dependents)
- "to enforce the first network policy enforcement action when the traffic event possesses both the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter" (claim 30)
- "one or more second instructions directing the network policy enforcement system to enforce only the first network policy enforcement action when the traffic event possesses the characteristic that matches the first traffic classification filter" (claim 31)
- "directing the network policy enforcement system to enforce the first network policy enforcement action and the second network policy enforcement action when the traffic event possesses both the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter" (claim 32)
- "the first traffic classification filter is applied to the traffic event before the second traffic classification filter is applied to the traffic event" (claim 33)
- "one or more policy enforcement provisioning instructions so that the network policy

enforcement system applies the first policy enforcement action before applying the second policy enforcement action" (claim 37)

- "when the traffic event possesses the characteristic that matches the first traffic classification filter, the network policy enforcement system applies the first policy enforcement action, and the network traffic inspection system does not determine whether the traffic event possesses the characteristic that matches the second traffic classification filter" (claim 38)
- "when the network traffic inspection system determines that the traffic event possesses the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter, the network policy enforcement system applies the first policy enforcement action but does not apply the second policy enforcement action" (claim 40)
- "when the network traffic inspection system determines that the traffic event possesses the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter, the network policy enforcement system applies the first policy enforcement action before applying the second policy enforcement action" (claim 41)
- "policy decision element (claim 42)
- "gateway" (claim 43)
- "programmable element" (claim 46)

Further, under at least the claim interpretations upon which Headwater apparently relies for its infringement assertions, the Asserted Claims would be invalid for failure to satisfy the written description and/or enablement requirements because they would be drawn to subject matter

that exceeds or otherwise differs from that which one of ordinary skill in the art would understand the named inventors to have had in their possession. Headwater's infringement allegations require numerous claim terms to be interpreted more broadly than the Asserted Patents disclose or enable. A person of skill in the art, upon reviewing the patents and the claims, would not consider the technology that Plaintiff seeks to cover in its infringement contentions to be in the possession of the inventors.

3. US Patent No. 9,198,042

Verizon contends that the full scope of each Asserted Claims of the '042 Patent are not described with particularity in the specification to which priority is sought, so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '042 Patent is invalid for lack of adequate written description and/or enablement under 35 U.S.C. § 112, ¶ 1, based at least on the following claim terms/phrases:

- "determining, based on the report, that a particular service policy setting of the wireless end-user device needs to be modified" (all Asserted Claims)
- "service policy setting configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network" (all Asserted Claims)
- "configuration information" (all Asserted Claims)
- "service usage measure" (claims 6 and 7)

Further, under at least the claim interpretations upon which Headwater apparently relies for its infringement assertions, the Asserted Claims would be invalid for failure to satisfy the written description and/or enablement requirements because they would be drawn to subject matter

that exceeds or otherwise differs from that which one of ordinary skill in the art would understand the named inventors to have had in their possession. Headwater's infringement allegations require numerous claim terms to be interpreted more broadly than the Asserted Patents disclose or enable. A person of skill in the art, upon reviewing the patents and the claims, would not consider the technology that Plaintiff seeks to cover in its infringement contentions to be in the possession of the inventors.

4. US Patent No. 9,215,613

Verizon contends that the full scope of each Asserted Claims of the '613 Patent are not described with particularity in the specification to which priority is sought, so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '613 Patent is invalid for lack of adequate written description and/or enablement under 35 U.S.C. § 112, ¶ 1, based at least on the following claim terms/phrases:

- "differential traffic control policy list" (all Asserted Claims)
- "differential traffic control policy" (all Asserted Claims)
- "an interface to allow a user to augment the differential traffic control policy for the first one or more applications but not for the second one or more applications and/or services" (all Asserted Claims)
- "classify" (all Asserted Claims)
- "classifications" (all Asserted Claims)
- "user interface foreground" (all Asserted Claims)
- "directly interacting with that application or perceiving any benefit from that application" (claim 6)
- "information regarding why the differential traffic control policy is applied to the particular application" (claim 7)

- "dynamically change the application of the differential traffic control policy based on a power state of the device" (claim 15)
- "dynamically change the application of the differential traffic control policy based on a device usage state" (claim 16)
- "dynamically change the application of the differential traffic control policy based on power control state changes for one or more of the modems" (claim 17)
- "foreground services" (claim 22)

Further, under at least the claim interpretations upon which Headwater apparently relies for its infringement assertions, the Asserted Claims would be invalid for failure to satisfy the written description and/or enablement requirements because they would be drawn to subject matter that exceeds or otherwise differs from that which one of ordinary skill in the art would understand the named inventors to have had in their possession. Headwater's infringement allegations require numerous claim terms to be interpreted more broadly than the Asserted Patents disclose or enable. A person of skill in the art, upon reviewing the patents and the claims, would not consider the technology that Plaintiff seeks to cover in its infringement contentions to be in the possession of the inventors.

B. 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.*, 134 S. Ct. 2120, 2124 (2014). For example, to the extent an asserted apparatus claim includes both apparatus and method limitations, that claim is invalid for indefiniteness under Section 112, ¶ 2 because it fails to identify or notify the public of what constitutes direct infringement. *See IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005).

Similarly, a claim that uses means-plus function claiming is indefinite "[i]f the patentee fails to disclose adequate corresponding structure." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1352 (Fed. Cir. 2015). A claim can also be found indefinite if it uses terms of degree. *See Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014). As the Federal Circuit has "explained, a term of degree fails to provide sufficient notice of its scope if it depends 'on the unpredictable vagaries of any one person's opinion.'" *Id.* (citation omitted). In addition, "a claim term that lacks an antecedent basis may . . . render a claim indefinite." *In re Downing*, 754 F. App'x 988, 996 (Fed. Cir. 2018).

Verizon identifies the following claims terms as indefinite under 35 U.S.C. § 112, ¶ 2:

- "prospective or successful communications" ('541 Patent, all Asserted Claims)

Verizon reserves the right to assert that any of the Asserted Claims of any Asserted Patent is invalid under Section 112, ¶ 2 in the event that Headwater proposes, or the Court adopts, and claim construction that would cause any claim term to fail to inform, with reasonable certainty, those skilled in the art about the scope of the claimed invention.

IV. OBVIOUSNESS-TYPE DOUBLE PATENTING

In addition to the grounds of invalidity identified above, each of the Asserted Claims of the '042 Patent are invalid due to obviousness-type double-patenting.

As the Federal Circuit explained in *In re Hubbell*, obviousness-type double patenting has two separate and independent rationales:

> There are two justifications for obviousness-type double patenting. The first is "to prevent unjustified timewise extension of the right to exclude granted by a patent no matter how the extension is brought about." The second rationale is to prevent multiple infringement suits by different assignees asserting essentially the same patented invention.

In re Hubbell, 709 F.3d 1140, 1145 (Fed. Cir. 2013).

The obviousness-type double patenting analysis is a two-step process. First, the differences

between the claims of the patent being used as a reference and the claims at issue are identified. *Georgia-Pacific v. US Gypsum*, 195 F.3d 1322, 1326 (Fed. Cir. 1999) ("[A]nalysis of the claims at issue is the first step in determining if the second invention is merely an obvious variation of the first. . . . Because these two claims are so similar, we must look to see if there is anything to distinguish claim 1 of the '989 patent from claim 1 of the '569 patent. There are two differences between these claims."), *opinion amended on rehearing*, 204 F.3d 1359 (Fed. Cir. 2000).

Second, whether those differences raise a patentable distinction must be determined. *Georgia-Pacific*, 195 F.3d at 1328 (finding that "[t]hese differences are not sufficient to render the claims patentably distinct"). "A later patent claim 'is not patentably distinct from an earlier claim if the later claim is obvious over, or anticipated by, the earlier claim.'" *Hubbell*, 709 F.3d at 1145 (*quoting Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 968 (Fed. Cir. 2001)).

A patentee can avoid obviousness-type double patenting issues by filing a terminal disclaimer in the Patent Office. *See In re Goodman*, 11 F.3d 1046, 1052 (Fed. Cir. 1993) ("[T]he patentee may overcome the double patenting rejection by filing a terminal disclaimer."); 37 C.F.R. § 1.321(c) (indicating that a terminal disclaimer can be filed "to obviate judicially created double patenting in a patent application or in a reexamination proceeding"); MPEP § 804.02 ("A rejection based on a nonstatutory type of double patenting can be avoided by filing a terminal disclaimer in the application or proceeding in which the rejection is made."). A terminal disclaimer filed to overcome an obviousness-type double patenting rejection is effective only where the application and conflicting patent are commonly owned. *Hubbell*, 709 F.3d at 1148–49.

The Asserted Claims of the '042 Patent are invalid due to obviousness-type double patenting over other patents filed by Headwater or its predecessors, including U.S. Patent No. 10,694,385. U.S. Patent No. 10,694,385 were not cited during the prosecution of the '042 Patent,

and no obviousness-type double patenting rejection based on U.S. Patent No. 10,694,385 was made during prosecution. Accordingly, no terminal disclaimers were filed in the Patent Office during prosecution of the '042 Patent.

U.S. Patent No. 10,694,385 was filed by the same inventive entity as the '042 Patent and the claims of the U.S. Patent No. 10,694,385 expire prior to the claims of the '042 Patent. Thus, the claims of the '042 Patent should have been rejected by the Examiner during prosecution for obviousness-type double patenting over the claims of U.S. Patent No. 10,694,385. *See* MPEP § 804.

V. ACCOMPANYING DOCUMENT PRODUCTION

Pursuant to Local Patent Rules 3-3 and 3-4, Verizon has produced all prior art referenced in its Invalidity Contentions as well as source code, specifications, schematics, flow charts, artwork, formulas, or other documentation sufficient to show the operation of any aspects or elements of an Accused Instrumentality identified by Headwater in its Infringement Contentions. Verizon will promptly produce any documents uncovered during discovery, including through third-party subpoenas.

Dated: December 21, 2023

Respectfully submitted,

/s/ Katherine Q. Dominguez

Katherine Q. Dominguez
kdominguez@gibsondunn.com
Josh A. Krevitt
jkrevitt@gibsondunn.com
Brian Rosenthal
brosenthal@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
200 Park Avenue
New York, NY 10166-0193
Telephone: 212.351.4000
Fax: 212.351.4035

Andrew Robb
arobb@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
1881 Page Mill Road
Palo Alto, CA 94034
Telephone: (650) 849-5334
Facsimile: (650) 849-5034

Deron R. Dacus
ddacus@dacusfirm.com
THE DACUS FIRM, P.C.
821 ESE Loop 323, Suite 430
Tyler, Texas 75701
Telephone: (903) 705-1117

Attorneys for Defendants

CERTIFICATE OF SERVICE

I hereby certify that on December 21, 2023, the foregoing was served to plaintiff's counsel of record via email.

/s/ Katherine Q. Dominguez
Katherine Q. Dominguez