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

HEADWATER RESEARCH LLC, *Plaintiff*, v. SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC., *Defendants*.	Civil Action No. 2:23-cv-00228-JRG-RSP **JURY DEMANDED**

SAMSUNG ELECTRONICS CO. LTD. AND SAMSUNG ELECTRONICS AMERICA, INC.'S P.R. 3-3 AND 3-4
INVALIDITY AND PATENT INELIGIBILITY CONTENTIONS

Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Defendants" or "Samsung") hereby provide the following Preliminary Invalidity Contentions ("Contentions") to Plaintiff Headwater Research LLC ("Plaintiff" or "Headwater") for U.S. Patent Nos. 9,609,510 ("the '510 patent"), 11,096,055 ("the '055 patent"), and 11,405,429 ("the '429 patent") (collectively, the "Asserted Patents").

I. PRELIMINARY STATEMENT AND RESERVATION OF RIGHTS

In its Infringement Contentions dated July 11, 2024, Headwater asserted the following 73 claims (the "Asserted Claims"):

- Claims 1-48 of the '510 patent;
- Claims 1-13 of the '055 patent; and
- Claims 1-12 of the '429 patent.

Samsung notes this is all of the claims of each of the Asserted Patents; however, to the extent Headwater may be permitted to assert additional claims or arguments in the future, Samsung

reserves all rights to disclose new or supplemental contentions regarding such claims and arguments.

Because the same claim scope must apply for both infringement and invalidity, these Contentions are based on Headwater's assertions in its Infringement Contentions. Samsung does not thereby implicitly or explicitly agree with Headwater's construction of the claims. Samsung reserves all rights to disclose new or supplemental invalidity contentions, including to address any construction of the claims rendered by the Court, changed theories of infringement, and any evidence obtained during the course of discovery.

Subject to the rights reserved in these Contentions, all Asserted Claims are invalid under at least one or more of 35 U.S.C. §§ 101, 102, 103, and/or 112. The Asserted Claims are invalid because they are anticipated and/or rendered obvious under 35 U.S.C. §§ 102 and 103. If Headwater contends or a fact-finder finds that one or more limitations of the Asserted Claims are not disclosed in the prior art identified as anticipatory, Samsung reserves the right to assert obviousness based on the identified references and/or to identify other references that would have rendered obvious the allegedly missing limitation. Furthermore, the obviousness combinations of references provided below and in the accompanying claim charts under 35 U.S.C. § 103 are exemplary only and are not intended to be exhaustive. If or when Headwater challenges the disclosure of any of these references with respect to particular limitations of the Asserted Claims, Samsung reserves the right to supplement these Contentions to assert additional or different bases for obviousness. Samsung reserves the right to use any combination of the references set forth in these Contentions to demonstrate the obviousness of the Asserted Claims. Additionally, certain claims of the Asserted Patents are invalid for failure to comply with the written description,

enablement, and definiteness requirements of 35 U.S.C. § 112. The Asserted Claims are also invalid for lack of patentable subject matter under 35 U.S.C. § 101.

Samsung expressly reserves the right to amend, correct, and/or supplement these Contentions in accordance with the Procedural Schedule governing these cases.

* * *

These Contentions reflect Samsung's knowledge, investigation, and discovery as of the date of service. Samsung reserves the right to supplement these Contentions as appropriate and for any permissible reason. For example, pursuant to the Procedural Schedule, Samsung reserves the right to supplement these Contentions after subsequent case events, including any disclosure by Headwater of amended or supplemental infringement contentions, any ruling by the Court on claim construction, or in response to arguments made and positions taken by Headwater during fact and expert discovery. Samsung also reserves the right to supplement these Contentions if it becomes aware of additional prior art, becomes aware of additional features of the prior art references cited below, or becomes aware of any other relevant information through discovery, including non-party discovery, or otherwise. Samsung also reserves the right to modify or supplement its Contentions based on the Court's construction of the claims.

In addition to the charts attached hereto, Samsung expressly incorporates by reference, as if expressly set forth in these Contentions, all invalidity positions, prior art, and claim charts asserted against Headwater in any Headwater lawsuit or IPR proceeding by Samsung, prior defendants, petitioners, and potential or actual licensees to the Asserted Patents. Samsung also incorporates any future discovery responses and expert reports in such litigations or proceedings.

Samsung's citations to disclosures in any particular prior art reference are not (and are not intended to be) exhaustive but rather illustrative. Samsung reserves the right to rely on uncited

portions of the prior art references and on other publications and expert testimony as aids in understanding and interpreting the cited portions, as providing context thereto, as additional evidence that the prior art discloses a claim limitation or the alleged invention as a whole, as evidence of the state of the art at a particular time, as evidence of the obviousness factor of contemporaneous development by others, and as evidence of motivation to combine. Samsung also reserves the right to rely on uncited portions of the prior art references, other publications, and testimony, including expert testimony, to establish bases for combination of prior art references that render the charted claims obvious. Due to the related nature of the Asserted Patents, Samsung also reserves the right to rely on any cited portions of a prior art reference for one Asserted Patent against all Asserted Patents. Samsung also reserves the right to rely upon any documentary or testimonial evidence of the existence of any systems that embodied or practiced the disclosures found in the accompanying invalidity charts, for example as discussed in the prior art references cited herein, as such systems may qualify as prior art under 35 U.S.C. § 102(g).[1]

Samsung intends to rely on admissions concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*: the patent prosecution histories for the Asserted Patents and related patents and/or patent applications (including all prior art cited therein); any deposition testimony of the named inventors on the Asserted Patents and related patents and/or patent applications in this matter or any other matter; evidence and testimony relating to the level of skill in the art; and the papers filed and any evidence submitted by Headwater in connection with this matter.

Samsung reserves the right to assert that the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the event Samsung obtains additional evidence that the inventors named in any of the

[1] Citations herein refer to the pre-AIA version of Title 35 of the U.S. Code.

Asserted Patents did not invent the subject matter claimed therein. Should Samsung obtain such evidence, it will provide the name of the person(s) from whom and the circumstances under which the alleged invention or any part of it was derived.

These Contentions are not intended to include or otherwise reflect Samsung's claim interpretations. Because the Court has not yet construed any of the claims in this litigation, Samsung bases these Contentions at least on its present understanding of Headwater's view and application of the claim scope, to the extent that view can be inferred from Headwater's actual and/or apparent application of those claims. But Samsung does not adopt any constructions or interpretations impliedly or expressly in these Contentions. Moreover, Samsung's Contentions may reflect alternative positions as to claim construction and scope.

For the purposes of these Contentions, Samsung has made assumptions regarding possible meanings of indefinite claim terms. By making these assumptions, Samsung does not admit that any claim language satisfies 35 U.S.C. § 112. Similarly, the use of asserted claim terms herein should not be understood to mean that such terms, as used in the Asserted Patents or claims thereof, are definite or otherwise comply with the conditions of patentability under 35 U.S.C. § 112. Likewise, the use of asserted claim terms herein should not be understood to suggest or imply a common, usual, ordinary, customary, plain, or accepted meaning in the art for any such terms.

By providing these Contentions, Samsung is not waiving nor limiting its rights to make arguments in the future about the proper scope of the claims or to advance alternative constructions to those Headwater advocates. Samsung expressly reserves the right to argue for such alternative claim constructions during this litigation and to supplement these Contentions after the Court has issued a claim construction ruling.

Samsung's factual investigations, including its investigation of prior art and grounds for invalidity, is ongoing. Further, Samsung's invalidity positions will be the subject of expert testimony. Samsung reserves the right to supplement these Contentions, including, without limitation, adding additional prior art and grounds of invalidity in accordance with the Federal Rules of Civil Procedure and Procedural Schedule in these cases, or otherwise.

II. PERSON HAVING ORDINARY SKILL IN THE ART

A person of ordinary skill in the art ("POSITA" or "POSA"), as of the priority date of the asserted patents, would have had at least a Bachelor's degree in Electrical Engineering, Computer Engineering, Computer Science, or equivalent, and at least two years of industry experience in networking security, mobile device communications security, and/or wireless digital communications systems security. Additional education might compensate for less experience, and vice versa.

III. IDENTIFICATION OF RELEVANT PRIOR ART

A. Priority Dates

Headwater's Preliminary Infringement Contentions assert a priority date of January 28, 2009 for all asserted patents. In each instance, Samsung disputes Headwater's asserted priority date for at least the reasons described below.

1. '510 patent

- **Claims 1-48:**

Headwater's Preliminary Infringement Contentions assert a priority date of January 28, 2009 the '510 patent. Samsung disputes that the '510 patent is entitled to this priority date; indeed, the face of the '510 patent does not provide a basis for Headwater to assert its purported priority date. To the extent Headwater later asserts a priority date later than January 28, 2009, Samsung expressly reserves the right to challenge such an assertion. Moreover, claims 1-48 may not be

entitled to the priority date of U.S. Provisional Patent Application No. 61/785,988—filed March 14, 2013—to which the ’510 patent claims priority.

2. ’055 patent

- **Claims 1-13:**

Claims 1-13 of the ’055 patent may not be entitled to Headwater’s purported priority date of January 28, 2009 because in many instances the subject matter of the asserted claims was not disclosed in U.S. Provisional Patent Application No. 61/206,354—filed January 28, 2009—to which the ′055 patent claims priority. As non-limiting examples, the following recited limitations of the asserted claims were not disclosed as of January 28, 2009: “application service interface” (claim 1), “virtual network operator” (claim 5), “service notification” and “billing interface” (claim 7), “send[ing] credentials . . . to the selected access network” (claim 12), “service service plan” being “inactive,” “suspend[ing]” a second device’s credentials, and “reactivat[ing]” a second device’s credentials (claim 13). To the extent it is later argued by Headwater, or otherwise determined that a different priority date applies, Samsung reserves the right to amend these Contentions accordingly.

3. ’429 patent

- **Claims 1-12:**

Claims 1-12 of the ’429 patent are not entitled to Headwater’s claimed priority date of January 28, 2009. The ’429 patent is a continuation-in-part of application No. 12/380,780, which necessarily means new matter was added. Thus, the Asserted Claims cannot claim priority to January 28, 2009. Nevertheless, even under Headwater’s incorrect priority dates, the Asserted Patents are invalid.

To the extent it is later argued by Headwater, or otherwise determined that a different priority date applies, Samsung reserves the right to amend these Contentions accordingly.

B. Prior Art Patent Publications

Based on their investigation to date, Samsung has provided in the list below the prior art patent publications presently known to Samsung that it contends anticipate and/or render obvious the Asserted Claims. The prior art identified in these Contentions discloses (i.e., anticipates and/or renders obvious) the elements of the Asserted Claims either explicitly or inherently. Similarly, the prior art patent publications listed on the face of the Asserted Patents discloses (i.e., anticipates and/or renders obvious) the elements of the Asserted Claims either explicitly or inherently, and Samsung reserves the right to rely on any such reference.

Prior-art patents or publications included in these Contentions may be related (such as a divisional, continuation, continuation-in-part, parent, or child) to earlier or later-filed patents or publications, may have counterparts filed in other jurisdictions, or may incorporate (or be incorporated by) other patents or publications by reference. The listed patents or publications are intended to be representative of these other patents or publications to the extent they exist. Samsung accordingly reserves the right to modify, amend, or supplement these Contentions with these related patents or publications, as well as other prior art references, upon further investigation. Additionally, any reference in these Contentions, including the appendices and exhibits thereto, to a specific subsection or subsections of 35 U.S.C. § 102, is merely exemplary, and Samsung expressly reserves the right to rely on additional or other sections of 35 U.S.C. § 102, as appropriate. If Headwater asserts that one or more of these references or systems fails to disclose one or more elements of a claim, Samsung reserves the right to also use those references to invalidate the claim under 35 U.S.C. § 103.

Discovery is ongoing, and Samsung's prior art investigation and third-party discovery is therefore not yet complete. Samsung reserves the right to present additional items of prior art under 35 U.S.C. §§ 102 and/or 103 that are located during the course of discovery or further investigation. For example, Samsung expects to receive documents from additional third parties either through informal requests or under subpoenas that are believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed and discussed below. These third parties include without limitation the authors, inventors, or assignees of the references listed in these disclosures.

Patent Publication	Publication/Issue Date
U.S. Patent Pub. No. 2008/0250129 ("Carpenter")	October 10, 2008
U.S. Patent Pub. No. 2007/0234402 ("Khosravi")	October 10, 2007
U.S. Patent Pub. No. 2009/0077643 ("Schmidt")	March 19, 2009
U.S. Patent Pub. No. 2007/0154014 ("Aissi")	July 5, 2007
U.S. Patent Pub. No. 2006/0233166 ("Bou-Diab")	October 19, 2006
U.S. Patent Pub. No. 2008/0182592 ("Cha")	July 31, 2008
U.S. Patent Pub. No. 2007/0130457 ("Kamat")	June 7, 2007
U.S. Patent Pub. No. 2009/0228951 ("Ramesh")	September 10, 2009
PCT Patent Pub. No. WO 2004/031488 ("Chiu")	April 15, 2004

U.S. Patent Pub. No. 2009/0239584 ("Jheng")	September 24, 2009
U.S. Patent Pub. No. 2007/0184858 ("Landschaft")	August 9, 2007
PCT Patent Pub. No. WO 2008/119998 ("Hodgson")	October 9, 2008
U.S. Patent Pub. No. 2006/0039354 ("Rao")	February 23, 2006
U.S. Patent Pub. No. 2009/0149220 ("Camilleri")	June 11, 2009
U.S. Patent No. 7,929,993 ("Nagarajan")	April 19, 2011
PCT Patent Pub. No. WO 2008/066439 ("Eriksson")	June 5, 2008
U.S. Patent Pub. No. 2008/0020755 ("Liu")	January 24, 2008
U.S. Patent Pub. No. 2005/0164737 ("Brown")	July 28, 2005
PCT Patent Pub. No. WO 2005/017693 ("Jiang")	February 24, 2005
U.S. Patent Pub. No. 2009/0217364 ("Salmela")	August 27, 2009
U.S. Patent Pub. No. 2010/0311468 ("Shi")	December 9, 2010
U.S. Patent No. 8,190,198 ("Venkataramu")	May 29, 2012
U.S. Patent Pub. No. 2010/0029273 ("Bennett")	February 4, 2010
U.S. Patent Pub. No. 2008/0064367 ("Nath")	March 13, 2008
U.S. Patent No. 9,307,408 ("Gupta")	April 5, 2016

U.S. Patent Pub. No. 2012/0204243 ("Wynn")	August 9, 2012
U.S. Patent Pub. No. 2009/0253409 ("Slavov")	October 8, 2009
U.S. Patent Pub. No. 2004/0132449 ("Kowarsch")	July 8, 2004
U.S. Patent Pub. No. 2005/0268092 ("Shankar")	December 1, 2005
U.S. Patent Pub. No. 2007/0042775 ("Umatt")	February 22, 2007
U.S. Patent Pub No. 2006/0075090 ("Bocking")	April 6, 2006
U.S. Patent Pub No. 2005/0101323 ("De Beer")	May 12, 2005
U.S. Patent Pub No. 2003/0038791 ("Chou")	February 27, 2003
U.S. Patent Pub No. 2008/0300020 ("Nishizawa")	December 4, 2008
U.S. Patent Pub No. 2010/0291924A1 ("Bajikar")	May 19, 2005

C. Prior Art Non-Patent Publications[2,3]

Non-Patent Publication	Publication Date

[2] Any discussion of a non-patent publication in either Section III.C or in one of the claim charts included herewith that discloses a corresponding product or system shall also apply with equal force to the underlying product or system. In other words, both the non-patent publication and the underlying product or system themselves qualify as prior art in the context that they are used herein.

[3] Discovery is currently ongoing, and Samsung will supplement these Contentions with respect to the public availability, as necessary, of any non-patent publication if and when more information becomes available. Indeed, Samsung expects to receive documents from third parties either

Android Developers, Android 2.3 Platform Highlights, 2010, downloaded from the internet at Android 2.3 Platform Highlights | Android Developers (vanderbilt.edu) on July 17, 2024.	2010
Android Developers, Android 2.3 Platform, 2010, downloaded from the internet at Android 2.3 Platform | Android Developers (vanderbilt.edu) on July 17, 2024.	2010
BlackBerry Pearl 9105 Smartphone	2010
BlackBerry Bold 9000 Smartphone – 4.6 User Guide	2008
BlackBerry Bold 9000 Smartphone – 5.0 User Guide	2009
BlackBerry Bold 9700 Smartphone – 5.0 User Guide	2009
BlackBerry Storm 2 9520/9550 Smartphones – 5.0 User Guide	2010
BlackBerry Curve 9330 Smartphone – 5.0 User Guide	2010
BlackBerry Torch 9800 Smartphone – 6.0 User Guide	2010
BlackBerry Bold 9000 Press Release, May 12, 2008, downloaded from the internet at https://web.archive.org/web/20080517012537/http://press.rim.com/release.jsp?id=1562 on July 16, 2024	2008
Blake, et al., IETF RFC 2475, "An Architecture for Differentiated Services," December 1998, downloaded from the internet at https://datatracker.ietf.org/doc/html/rfc2475 on July 29, 2023	1998
Buiati, et al., 2004, July. A secure autoconfiguration protocol for MANET nodes. In International Conference on Ad-Hoc Networks and Wireless (pp. 108-121). Berlin, Heidelberg: Springer Berlin Heidelberg. ("Buiati")	2004
Damianou, et al., 2001. The ponder policy specification language. In Policies for Distributed Systems and Networks: International Workshop, POLICY 2001 Bristol, UK, January 29–31, 2001 Proceedings (pp. 18-38). Springer Berlin Heidelberg.	2001
Developing Software for Symbian OS	2006

through informal requests or under subpoenas that are believed to have knowledge, documentation, and/or corroborating evidence concerning the public availability of the identified non-patent publications.

Excerpts, Computer Networks, Fourth Edition, by Andrew Tanenbaum, Prentice Hall, 2003	2003
Grossman, Invention of the year: The iPhone. Time Magazine Online, 1, downloaded from the internet at https://content.time.com/time/specials/2007/article/0,28804,1677329_1678542_1677891,00.html on May 28, 2024.	2007
GSM Arena: Apple iPhone, downloaded from the internet at https://www.gsmarena.com/apple_iphone-1827.php on July 16, 2024.	2024
GSM Arena: Apple iPhone 3G, downloaded from the internet at https://www.gsmarena.com/apple_iphone_3g-2424.php on July 16, 2024.	2024
GSM Arena: Apple iPhone 3GS, downloaded from the internet at https://www.gsmarena.com/apple_iphone_3gs-2826.php on July 16, 2024.	2024
GSM Arena: Apple iPhone 4, downloaded from the internet at https://www.gsmarena.com/apple_iphone_4-3275.php on July 16, 2024.	2024
GSM Arena: BlackBerry Bold 9000, downloaded from the internet at https://www.gsmarena.com/blackberry_bold_9000-2370.php on July 16, 2024.	2024
GSM Arena: BlackBerry Bold 9700, downloaded from the internet at https://www.gsmarena.com/blackberry_bold_9700-2963.php on July 16, 2024.	2024
GSM Arena: BlackBerry Bold 9780, downloaded from the internet at https://www.gsmarena.com/blackberry_bold_9780-3431.php on July 16, 2024.	2024
GSM Arena: BlackBerry Storm2 9550, downloaded from the internet at https://www.gsmarena.com/blackberry_storm2_9550-2970.php on July 16, 2024.	2024
GSM Arena: BlackBerry Curve 3G 9330, downloaded from the internet at https://www.gsmarena.com/blackberry_curve_3g_9330-3591.php on July 16, 2024.	2024

GSM Arena: BlackBerry Torch 9800, downloaded from the internet at https://www.gsmarena.com/blackberry_torch_9800-3203.php on July 16, 2024.	2024
GSM Arena: Samsung Google Nexus S, downloaded from the internet at https://www.gsmarena.com/apple_iphone_4-3275.php on July 16, 2024.	2024
Google Android OS 2.3 Gingerbread User's Guide	2011
Hiertz, et. al., (2010). The IEEE 802.11 universe. IEEE Communications Magazine, 48(1), 62-70. ("Hiertz")	2010
IETF RFC 5246, The Transport Layer Security (TLS) Protocol, version 1.2, August 2008, downloaded from the internet at https://datatracker.ietf.org/doc/html/rfc5246 on May 9, 2024	2008
Internet Traffic Manager	Aug. 11, 2009
iPhone User Guide For iPhone OS 3.1 Software	2009
iPhone User Guide For iOS 4.1 Software	2011
iPhone User Guide For iOS 4.2 and 4.3 Software	2011
Liao, S.H., 2005. Expert system methodologies and applications—a decade review from 1995 to 2004. Expert systems with applications, 28(1), pp. 93-103 ("Liao")	2005
Lobo, et. al., (1999). A policy description language. AAAI/IAAI, 1999, 291-298 ("Lobo")	1999
Klug, Brian, Nexus S and Android 2.3 Review: Gingerbread for the Holidays, AnandTech, December 14, 2010, downloaded from the internet at https://www.anandtech.com/show/4059/nexus-s-and-android-23-review-gingerbread-for-the-holidays/3 on July 17, 2024.	2010
Mansour, et al., 2001. Jitter control in QoS networks. IEEE/ACM Transactions On Networking, 9(4), pp.492-502.	2001
Meier, Reto, (2009). Professional Android Application Development	2009
Nexus One User's Guide	Mar. 15, 2010
Nexus S User's Guide	2011

Simplified Policy Language (CIM-SPL). Document Number DSP0231, version, 1 ("CIM-SPL")	2009
Stone, G.N., Lundy, B. and Xie, G.G., 2001. Network policy languages: a survey and a new approach, IEEE network, 15(1), pp.10-21 ("Stone")	2001

Moreover, the prior art non-patent publications listed on the face of the Asserted Patents discloses (i.e., anticipates and/or renders obvious) the elements of the Asserted Claims either explicitly or inherently, and Samsung reserves the right to rely on any such reference.

D. Prior Art Systems and/or Knowledge

The Asserted Claims are invalid under 35 U.S.C. §§ 102 and/or 103 based on prior art items offered for sale or publicly used or known or prior inventions, such as prior art products, including systems embodying any alleged inventions or structures described in, and/or any knowledge disclosed by or referred to in, any of the prior art patents or prior art publications identified above in Sections III.B and III.C. Because Samsung has not yet completed discovery in this case, Samsung reserves the right to supplement theses Contentions with facts, documents, or other information learned at a later point through third-party discovery or further investigation. For example, Samsung expects to receive documents from additional third parties either through informal requests or under subpoenas that are believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed above and below and/or additional prior art. These third parties include without limitation the authors, inventors, or assignees of the references listed in these Contentions. In addition, Samsung reserves the right to assert invalidity under other sections of 35 U.S.C. § 102 to the extent that discovery or further investigation yield information forming the basis for such invalidity.

Moreover, all of the systems and products listed below qualify as prior art to each of the Asserted Patents under at least pre-AIA 35 U.S.C. §§ 102(a)/(b). Such systems and products were

known, used, offered for sale, and/or sold in the United States prior to the appropriate priority date corresponding to each of the Asserted Patents.

Devices
Android Devices (e.g., T-Mobile G1/HTC Dream, Samsung GT-I7500 Galaxy, Nexus One, Nexus S, and emulators)[4]
Apple Devices (e.g., iPhone, iPhone 3G, iPhone 3GS, iPhone 4, iPhone 5, and emulators)
Windows Mobile Devices (e.g., HTC Ozone, HTC Imagio XV6975, HTC Tilt 2, HTC Pure, Samsung C6620, Samsung Intrepid SPH-i350 and emulators)
BlackBerry Devices (e.g., BlackBerry Curve 8330/8900, BlackBerry Bold 9000, BlackBerry Storm 9500/9530, BlackBerry Bold 9780, BlackBerry Bold 9700, BlackBerry Curve 3G 9330, BlackBerry Storm 2 9550, BlackBerry Torch 9800, and emulators)

Operating Systems
Android including Android 1.0 (released September 2008), Android 1.1 (released February 2009), Android Cupcake (1.5) (released April 2009), Android Donut (1.6) (released September 2009), Android Eclair (2.0, 2.0.1, 2.1) (released October 2009 - January 2010), Android Froyo (2.2) (released May 20, 2010), Android Gingerbread (2.3) (released December 6, 2010)[5]

[4] *See, e.g.*, SAMSUNG_PRIORART0000001-334; SAMSUNG_PRIORART0005174-76; SAMSUNG_PRIORART0005177-317; SAMSUNG_PRIORART0005416-19; SAMSUNG_PRIORART0005420-23; SAMSUNG_PRIORART0005424-28; SAMSUNG_PRIORART0005429-44; SAMSUNG_PRIORART0005445-48; SAMSUNG_PRIORART0005449-52; SAMSUNG_PRIORART0005453-57; SAMSUNG_PRIORART0005458-71; SAMSUNG_PRIORART0005472-77; SAMSUNG_PRIORART0005478-84; SAMSUNG_PRIORART0005485-86; SAMSUNG_PRIORART0005488-5624; Section IV.B.2, *infra*.

[5] *See, e.g.*, SAMSUNG_PRIORART0005042-5487; SAMSUNG_PRIORART0005487; SAMSUNG_PRIORART0004085; SAMSUNG_PRIORART0004084; SAMSUNG_PRIORART0005042; SAMSUNG_PRIORART0005350; SAMSUNG_PRIORART0003998; SAMSUNG_PRIORART0006724; SAMSUNG_PRIORART0006728; SAMSUNG_PRIORART0006730; SAMSUNG_PRIORART0005055; SAMSUNG_PRIORART0005056; SAMSUNG_PRIORART0005043; SAMSUNG_PRIORART0006720; SAMSUNG_PRIORART0009427; SAMSUNG_PRIORART0009510; SAMSUNG_PRIORART0009523; SAMSUNG_PRIORART0009529; SAMSUNG_PRIORART0009539; SAMSUNG_PRIORART0009540;

iPhone OS including iPhone OS 1.0 (released June 29, 2007), iPhone OS 2.0 (released July 11, 2008), iPhone OS 3.0 (released June 19, 2009), iOS 4.0 (released June 21, 2010), iOS 5.0 (released October 12, 2011), and iOS 6.0 (released September 19, 2012)
BlackBerry OS 1, BlackBerry OS 2, BlackBerry OS 3 (released March 2002), BlackBerry OS 4.0 (released June 2003), BlackBerry OS 4.1 (released January 2006), BlackBerry OS 4.2 (released June 2007), BlackBerry OS 4.3 (released October 2007), BlackBerry OS 4.5/4.6 (released June 2008), BlackBerry OS 4.7 (released November 2008), BlackBerry OS 5.0 (released August 2009), BlackBerry OS 6.0 (released July 2010)
Windows Mobile including Windows Mobile 6.0 (released February 12, 2007), Windows Mobile 6.1 (released April 1, 2008), Windows Mobile 6.5 (released May 11, 2009), Windows Phone 7 (released October 21, 2010), Windows Phone 8 (released October 29, 2012)

Applications/Services/APIs
Microsoft Applications/Services/APIs (including Microsoft Outlook Mobile, Connection Manager, Windows Live, MyPhone, Direct Push, Messaging API (MAPI), Outlook Object Model (POOM) API, Wireless Application Protocol (WAP) API, HTTPS/SSL related APIs, CryptoAPI, Security Support Provider Interface (SSPI), Message Queuing (MSMQ) API, and Open Mobile Alliance (OMA) Device Management (DM) for over-the-air (OTA) provisioning)
Apple Applications/Services/APIs (including Mail, iTunes Store, iTunes, Messages, Calendar, MobileMe, Backup, Voicemail, VPN)
BlackBerry Applications/Services/APIs (including those associated with Mobile Data Service (MDS), BlackBerry Application Storefront / BlackBerry App World, Preferred Wireless Network List; applications interacting with BlackBerry Enterprise Server ("BES") including BES for Microsoft Exchange and BES for MDS)
Gemalto Applications/Services/APIs (including those associated with LinqUs Device Manager, LinqUs OTA Manager, LinqUs Service Manager, LinqUs Roaming Services, Smart Card Web Server Technology, and/or MultimediaReady SIM card)
Telespree Applications/Services/APIs (including those associated with Telespree's Self-service Automated Activation & Service Enrollment, Self-Service Account Maintenance (Self-Care), Self-Service Special Data Services, and/or Enterprise services)

SAMSUNG_PRIORART0009541; SAMSUNG_PRIORART0009542; SAMSUNG_PRIORART0012025; SAMSUNG_PRIORART0012027; SAMSUNG_PRIORART0012029; SAMSUNG_PRIORART0003998; SAMSUNG_PRIORART0005487; SAMSUNG_PRIORART0004085; SAMSUNG_PRIORART0006730; SAMSUNG_PRIORART0005350; SAMSUNG_PRIORART0005056; SAMSUNG_PRIORART0006724; SAMSUNG_PRIORART0005042; SAMSUNG_PRIORART0006728; Section IV.B.2, *infra*. For Android versions 1.0-2.3, code from earlier versions carried over into later versions. Thus, any code cited from an earlier version of Android also exists in the later version.

Good Mobility Suite Applications/Services/APIs (including those associated with Good Mobile Messaging, Good Mobile Connection, Good Mobile Intranet, Good Mobile Messaging S/MIME, and/or Good Mobile Messaging Hosted Edition)

To the extent that Headwater later contends that the ItsOn Solution practiced the asserted claims of the '510 patent (which issued on March 28, 2017 from an application field on March 13, 2014), the ItsOn Solution could serve as prior art to, and thus invalidate, such claims—at least under Headwater's apparent claim interpretation.

The Federal Circuit has held that "[t]he proper test for the public use prong of the [pre-AIA] § 102(b) statutory bar is whether the purported use: (1) was accessible to the public; or (2) was commercially exploited." *See Invitrogen Corp. v. Biocrest Mfg. L.P.,* 424 F.3d 1374, 1380 (Fed. Cir. 2005). Additionally, the on-sale bar of § 102(b) is triggered when the invention is both (1) the subject of a commercial offer for sale not primarily for experimental purposes and (2) ready for patenting. *Pfaff v. Wells Elecs., Inc*., 525 U.S. 55, 67 (1998). Each of the systems and products listed above meets these criteria.

The above discussion is not exclusive. Samsung reserves the right to rely on both the listed products as well as other products that may become known and/or relevant during the course of this matter. Samsung also reserves the right to rely on forthcoming testimony and/or declarations from third-party witnesses, including but not limited to witnesses from Google, Apple, Microsoft, and RIM/BlackBerry relating to the above products, applications, and operating systems.

Any citation to one or more of these prior art references, or other prior art references regarding any method or system, should be construed to constitute not only a citation to the prior art reference itself but also a reference to the system itself. Discovery is ongoing in this case, and Samsung will supplement these Contentions if and when more information becomes available. For example, Defendants are already in the process of taking discovery from non-parties including

Google, Apple, Microsoft, and RIM/BlackBerry. Accordingly, Defendants reserve the right to modify, amend, and/or supplement these contentions as information becomes available from non-parties.

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.

Because Samsung has not yet completed discovery in this case, including taking depositions of the named inventors of the Asserted Patents, reviewing Headwater's productions, and seeking discovery of prior inventions by third parties, Samsung reserves the right to supplement these Contentions with facts, documents, or other information learned at a later point through discovery or further investigation.

IV. ANTICIPATION AND OBVIOUSNESS (35 U.S.C. §§ 102 AND 103)

The Asserted Claims are anticipated by and/or rendered obvious in view of one or more items of prior art identified in these Contentions, alone and/or in combination. Based on its investigation to date, Samsung has provided in the lists above the prior art presently known to Samsung that anticipates and/or renders obvious the Asserted Claims under at least Headwater's actual and/or apparent application of those claims. The prior art identified in these Contentions

discloses (i.e., anticipates and/or renders obvious) the elements of the Asserted Claims either explicitly or inherently.

Prior art patents or publications included in these Contentions may be related (such as a divisional, continuation, continuation-in-part, parent, or child) to earlier or later-filed patents or publications, may have counterparts filed in other jurisdictions, or may incorporate (or be incorporated by) other patents or publications by reference. The listed patents or publications are intended to be representative of these other patents or publications to the extent they exist. Samsung accordingly reserves the right to modify, amend, or supplement these Contentions with these related patents or publications, as well as other prior art references, upon further investigation. Additionally, any reference in these Contentions, including the appendices and/or exhibits thereto, to a specific subsection or subsections of 35 U.S.C. § 102, is merely exemplary, and Samsung expressly reserves the right to rely on additional or other sections of 35 U.S.C. § 102, as appropriate.

Although Samsung's investigation is ongoing, information available to date indicates that each prior art system disclosed above was at least (1) known or used in this country before the alleged invention of the claimed subject matter of the Asserted Patents; (2) in public use, on sale, or offered for sale in this country more than one year before the effective filing date for the Asserted Patents; or (3) invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents.

Much of the art identified in these Contentions reflects common knowledge and the state of the art prior to the filing or asserted priority dates of the Asserted Patents. As such, the obviousness combinations in these Contentions are intended to be exemplary. There are many possible combinations of the disclosed prior art, and the inclusion of certain exemplary

combinations does not exclude other combinations. For example, where a particular contention calls for combining references, any of a number of references can be combined.

Depending on the construction of the claims of the Asserted Patents, and/or positions that Headwater or its expert witnesses may take concerning claim interpretation, infringement, and/or invalidity issues, different ones of the charted prior art references in the Exhibits may be of greater or lesser relevance and different combinations of these references may be implicated. Given the uncertainty, the charts may reflect alternative applications of the prior art against the Asserted Claims.

Citations to particular excerpts from the prior art are likewise exemplary and not exhaustive of the evidentiary support for the invalidity of the Asserted Patents contained in and/or concerning a particular piece of prior art. Samsung may rely on uncited portions of the prior art references, other documents or operational systems, the "Background of the Invention" and other relevant portions of the Asserted Patents, the prosecution histories of the Asserted Patents (including all cited references) and their related patents and applications, and forthcoming fact and expert testimony to provide context to aid in understanding the prior art reference and/or the cited portions of the references. Where Samsung cites to a particular figure in a reference, the citation encompasses the caption and description of the figure and any text relating to or discussing the figure. Likewise, where Samsung cites text referring to a figure, the citation includes the figure as well (and vice versa).

A. Prior Art Under 35 U.S.C. § 102

Samsung contends that at least the primary prior art references (Exs. A-01 through A-06, B-01 through B-09, and C-01 through C-09) and systems (Exs. A-07 through A-10, B-10 through B-14, and C-10 through C-13) identified below, by themselves, anticipate the Asserted Claims:

Exhibits	Primary References and/or Systems
A-01	Salmela
A-02	Shi
A-03	Venkataramu
A-04	Bennett
A-05	Nath
A-06	Gupta
B-01	Chiu
B-02	Jheng
B-03	Landschaft
B-04	Hodgson
B-05	Rao
B-06	Camilleri
B-07	Liu
B-08	Nagarajan
B-09	Eriksson
B-10	Samsung D880 Duos
C-01	Khosravi
C-02	Carpenter
C-03	Schmidt
C-04	Bou-Diab
C-05	Cha
C-06	Ramesh
C-07	Aissi

Exhibits	Primary References and/or Systems
C-08	Kamat
C-09	Bajikar
A-07, B-11, C-10	BlackBerry Devices
A-08, B-12, C-11	Windows Mobile Devices
A-09, B-13, C-12	Android Devices
A-10, B-14, C-13	Wireless Device OTA

Specifically, Samsung contends that at least the references and/or systems in the table above independently anticipate the Asserted Claims under 35 U.S.C. §§ 102(a), (b), (e), (f) and/or (g), as set forth in the charts attached as:

- Exhibits A-01 through Exhibits A-10 for the asserted claims of the ’510 patent;
- Exhibits B-01 through Exhibits B-14 for the asserted claims of the ’055 patent; and
- Exhibits C-01 through Exhibits C-13 for the asserted claims of the ’429 patent.

Where an asserted prior art reference in any attached claim charts relies on a claim of priority to assert a critical reference date under pre-AIA 35 U.S.C. § 102 *et seq*. (including pre-AIA § 102(e)), compliance with pre-AIA 35 U.S.C. § 112, first paragraph, or 35 U.S.C. § 112(a), is shown in an appendix to a given claim.

These charts, however, are exemplary. The claimed features are similarly described and suggested in other places (including in all of the documents cited during prosecution of each piece of prior art), and also were present when prior-art systems practicing the described prior art were used before the application that ultimately led to the Asserted Patents. Thus, where patents or other printed materials are disclosed, Samsung reserves the right to also rely on those materials as descriptions of systems, devices, or methods referenced therein, publicly used, and/or on sale or

known in the United States. Further, Samsung reserves the right to rely on other evidence of the prior art beyond merely the exemplary references cited in the charts attached as Exhibits.

Where patents or other printed materials are disclosed, Samsung reserves the right to also rely on those materials as descriptions of systems, devices, or methods referenced therein, publicly used, and/or on sale or known in the United States. Samsung reserves the right to also use those references to invalidate the claim under 35 U.S.C. § 103.

B. Prior Art Under 35 U.S.C. § 103

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art.

Moreover, Exhibits A-A, B-B, and C-C list secondary prior art references and identify, on limitation-by-limitation bases, exemplary disclosures where each secondary reference teaches the limitations of the asserted claims. To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have also been obvious to a POSITA at the time of the invention by the additional combination of the primary reference with one or more of the references listed as disclosing those alleged missing limitations in Exhibits A-A, B-B, and C-C.

As such, a POSITA would have been motivated to combine any reference set forth in at least the following charts:

- Exhibit A-01 through Exhibit A-10 and Exhibit A-A for the asserted claims of the ’510 patent;
- Exhibit B-01 through Exhibit B-14 and Exhibit B-B for the asserted claims of the ’055 patent; and

- Exhibit C-01 through Exhibit C-13 and Exhibit C-C for the asserted claims of the ’429 patent.

Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference. These charts, however, are exemplary. The claimed features are similarly described and suggested in other places (including in all of the documents cited during prosecution of each piece of prior art), and also were present when prior-art systems practicing the described prior art were used before the application that ultimately led to the Asserted Patents.

Samsung’s assertion that the combinations above render the asserted claims obvious under 35 U.S.C. § 103 is not, and is not intended to be, an admission or suggestion that each reference does not independently anticipate the Asserted Claims under 35 U.S.C. § 102. *See Connell v. Sears, Roebuck & Co*., 722 F.2d 1542, 1548 (Fed. Cir. 1983) (“‘[A]nticipation is the epitome of obviousness.’”) (quoting *In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982)). Further, the fact that certain secondary references are listed solely in Exhibits A-A, B-B, and C-C is not intended to be an admission or suggestion that each individual reference cited therein does not also independently anticipate and/or render obvious the Asserted Claims under 35 U.S.C. §§ 102 and 103. Samsung expressly reserves the right to rely on any secondary reference cited in Exhibits A-A, B-B, and C-C as if it were set forth as a primary reference in Section IV.A, *supra*. Finally, the inclusion of the exemplary combinations in the attached Exhibits and Appendices does not exclude other combinations of prior art disclosed in this or previous sections.

1. Exemplary Combinations

Exemplary combinations of prior art references that render the Asserted Claims invalid as obvious under 35 U.S.C. § 103 are described in:

- Exhibit A-01 through Exhibit A-10 and Exhibit A-A for the asserted claims of the ’510 patent;

- Exhibit B-01 through Exhibit B-14 and Exhibit B-B for the asserted claims of the ’055 patent; and
- Exhibit C-01 through Exhibit C-13 and Exhibit C-C for the asserted claims of the ’429 patent.

Moreover, each prior art reference or system may be combined with (1) information known to persons skilled in the art at the time of the alleged invention; (2) any other anticipatory prior art references or systems; and (3) any of the additional prior art identified above or in the prosecution of the Asserted Patents and related applications.

Below are examples of prior art references and/or systems that would have been combined by one of ordinary skill in the art at the time of the alleged invention. These combinations are merely examples. The Asserted Claims are rendered obvious by:

- ’510 patent:
    - Salmela alone or in combination with one or more of Shi, Vankataramu, Bennett, Nath, Gupta, Wynn, and Slavov.
    - Shi alone or in combination with one or more of Salmela, Vankataramu, Bennett, Nath, Gupta, Wynn, and Slavov.
    - Venkataramu alone or in combination with one or more of Salmela, Shi, Bennett, Nath, Gupta, Wynn, and Slavov.
    - Bennett alone or in combination with one or more of Salmela, Shi, Vankataramu, Nath, Gupta, Wynn, and Slavov.
    - Nath alone or in combination with one or more of Salmela, Shi, Vankataramu, Bennett, Gupta, Wynn, and Slavov.
    - Gupta alone or in combination with one or more of Salmela, Shi, Vankataramu, Bennett, Nath, Wynn, and Slavov.
    - Blackberry Devices alone or in combination with one or more of Salmela, Shi, Vankataramu, Bennett, Nath, Gupta, Wynn, and Slavov.
    - Windows Mobile Devices alone or in combination with one or more of Salmela, Shi, Vankataramu, Bennett, Nath, Gupta, Wynn, and Slavov.
    - Android Devices alone or in combination with one or more of Salmela, Shi, Vankataramu, Bennett, Nath, Gupta, Wynn, and Slavov.

- Wireless Devices OTA alone or in combination with one or more of Salmela, Shi, Vankataramu, Bennett, Nath, Gupta, Wynn, and Slavov.

- ’055 patent:
  - Chiu alone or in combination with one or more of Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Jheng alone or in combination with one or more of Chiu, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Landschaft alone or in combination with one or more of Chiu, Jheng, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Hodgson alone or in combination with one or more of Chiu, Jheng, Landschaft, Rao, Camilleri, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Rao alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Camilleri, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Camilleri alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Liu alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Nagarajan, Eriksson, Brown, and Jiang.
  - Nagarajan alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Eriksson, Brown, and Jiang.
  - Eriksson alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Brown, and Jiang.
  - Samsung D880 Duos alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Brown, and Jiang.
  - Blackberry Devices alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Samsung D880 Duos, Brown, and Jiang.
  - Windows Mobile Devices in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Samsung D880 Duos, Brown, and Jiang.
  - Android Devices alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Samsung D880 Duos, Brown, and Jiang.

- Wireless Devices OTA alone or in combination with one or more of Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, Samsung D880 Duos, Brown, and Jiang.

- ’429 patent:

  - Khosravi alone or in combination with or more of Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Carpenter alone or in combination with or more of Khosaravi, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Schmidt alone or in combination with or more of Khosaravi, Carpenter, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Bou-Diab alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Cha alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Aissi alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Kamat alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Bajikar alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Blackberry Devices alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

  - Windows Mobile Devices alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

- Android Devices alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.
- Wireless Devices OTA alone or in combination with or more of Khosaravi, Carpenter, Schmidt, Bou-Diab, Cha, Ramesh, Aissi, Kamat, Bajikar, Kowarsch, Shakar, Umatt, Bocking, De Beer, Chou, and Nishizawa.

2. Exemplary Motivations to Combine

To the extent a finder of fact finds that any primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the allegedly missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

Moreover, as explained above, it would have been obvious to a person of skill in the art at the time of the alleged invention of the asserted claims to combine any primary reference with any combination of other primary references or secondary references so as to practice the asserted claims. To the extent that Headwater argues that any concept claimed in the asserted claims is not disclosed in a primary reference, it would, at a minimum, have been obvious to adapt the primary reference to include the concept or combine it with other primary references or secondary references that disclose the concept. Each concept described and claimed in the Asserted Patents was known to those of skill in the art as available design choices for various network data saving features, battery saving features, and network connectivity management functions.

The Supreme Court has held that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same

field or a different one." *Id*. at 417. As the Supreme Court made clear, "[f]or the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id*.

To determine whether there is an apparent reason to combine the known elements in the fashion claimed by the patent at issue, a court can "look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art." *Id*. at 418. For example, obviousness can be demonstrated by showing "there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims." *Id*. at 420. "[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id*. Common sense also teaches that "familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id*.

However, the Supreme Court in *KSR* held that a claimed invention can be obvious even if there is no explicit teaching, suggestion, or motivation for combining the prior art to produce that invention. In summary, *KSR* holds that patents that are based on new combinations of elements or components already known in a technical field may be found to be obvious. *See, generally*, *KSR*, 127 S.Ct. 1727. Specifically, the Court in *KSR* rejected a rigid application of the "teaching, suggestion, or motivation [to combine]" test. *Id*. at 1741. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim." *Id*. at 1741-1742. "Under

the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id*. at 1742. A key inquiry is whether the "improvement is more than the predictable use of prior art elements according to their established functions." *Id*. at 1740.

The rationale 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 to each other. *In re Inland Steel Co*., 265 F.3d 1354, 1362 (Fed. Cir. 2001). The Federal Circuit has held that two references may be combined as invalidating art under similar circumstances, namely "[the prior art] focus[es] on the same problem that the . . . patent addresses: enhancing the magnetic properties of . . . steel. Moreover, both [prior art references] come from the same field . . . . Finally, the solutions to the identified problems found in the two references correspond well." *Id*. at 1364 (concerning patents and prior art relating to improving the magnetic and electrical properties of steel).

In view of the Supreme Court's *KSR* decision, the PTO issued a set of Examination Guidelines. Examination Guidelines for Determining Obviousness Under 35 U.S.C. §103 in view of the Supreme Court Decision in *KSR Int'l Co. v. Teleflex, Inc*., 72 Fed. Reg. 57526 (Oct. 10, 2007). Those Guidelines summarized the *KSR* decision and identified various rationales for finding a claim obvious, including those based on other precedents. Those rationales include:

> (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 57529. The above rationales likewise apply in rendering obvious the asserted claims of the Asserted Patents.

The references disclosed herein, alone or in combination, contain an explicit and/or implicit teaching or motivation to combine them due to the following: (1) the knowledge generally available to a POSITA; (2) the prior art references as understood by a POSITA; (3) the nature of the problem to be solved; (4) the fact that each prior art reference addresses similar problems; and (5) the knowledge of a POSITA that the disclosed elements had been or could be used together.

As an example of those reasons and motivations to combine, the various prior art publications and systems relied upon herein all generally relate to or include techniques to access a wireless network from a mobile device in accordance with a specified policy. *See* Exs. A-01 through C-13; Exs. A-A through C-C. The prior art depicts, discloses, and discusses similar components and techniques for avoiding roaming charges, prioritizing application data traffic, managing device credentials (e.g., Subscriber Identity Modules (SIM)), managing device network connections, and improving the end-user experience when connecting to wireless networks, among other things. *Id*. Thus, a person of ordinary skill in the art would understand the teachings of the references and systems to be applicable to one another. A POSITA would have also found it obvious to implement (i.e., obvious to try) such combinations in order to utilize these well-known

networking, device management, and data priroritization techniques in a wireless end-user device capable of communicating data for Internet service activities over wireless wide area networks. *Id.*

For example, a POSITA would look to the primary and secondary references and systems discussed above to improve or tailor the disclosures thereof to reduce device design and manufacturing costs, reduce wear-and-tear on devices for users with multiple SIM cards, reduce roaming charges for the user, and improve the user experience by automatically connecting to a preferred network and prioritizing higher priority network data traffic. A POSITA would have understood and been aware of motivations to reduce cost to service providers, device manufacterers, and end-users. A POSITA also would have understood and been aware of motivations to improve the end-user experience when managing network connections and multiple applications.

Accordingly, a POSITA would find these goals and methods for achieving them obvious, would further seek to combine or modify the disclosure of any given primary and secondary references and/or systems to achieve those goals, and would have readily understood that doing so could increase device/network performance, improve user interactions and/or satisfaction, and reduce cost. *See, e.g.*, Jheng [0006] ("The dual SIM mobile phone allows a user to use two communication services without carrying two phones at the same time."), [0050] ("With two or more subscriber identity cards, in order to reduce communication fee, it is preferred to issue an [mobile-orignated] request to a cell that a Subscriber identity card camps on without roaming."); Chiu at 2:15-18 ("[T]here is a need for systems and methods for providing smart connection management of portable devices. These systems and methods would preferably take into consideration the user's preferences and/or company-wide communication policies."), 3:30-32 ("[T]he profile (and the associated configuration parameters and connection selection criteria)

would be downloaded to the portable device from a remote server or remote profile database so as to reduce or avoid the need for manual configuration"), 4:1-4 ("Allowing (or requiring) profiles to be downloaded to the portable device and/or restricting user modification of selected configuration parameters or selection criteria allows companies to maintain some level of control over its user base and implement company-wide communication policies."), 4:23-29 ("[E]mbodiments of the present invention enable portable devices to automatically select the 'best' available connection in accordance with user preferences or company communication policies and reduce or avoid the problems associated with switching between different connection types or different networks during a communication session."); Hodgson at 2:27-32 ("The present inventors have realised that it would be desirable to alleviate or overcome this disadvantage by providing an authentication arrangement that provides additional authentication information to a service provider/authenticating party from a further service provider/authenticating party without the service provider/authenticating party and the further service provider/authenticating party sharing the identity of the entity."); Landshaft [0007] ("All of the above-described attempts at a practical solution require a user to decide that SIM card he wants to use before initiating a communication event. … This is inconvenient to the user, risks damaging the mobile communication device and is error-prone, as the user may not choose the correct SIM card or may forget to make a choice altogether"), [0024] ("For example telephone calls, SMS or Internet access charges may vary from one network to another, and charges within the same network typically vary depending upon the day and the time of day."), [0049] ("If the SIM card profiles include tariff information, a selection may be based on tariff, resulting in selection of the SIM card profile having lower rates for the given time of day."); Salmela at [0023] ("[T]he subscription credentials 26 comprise a downloadable Universal Subscriber Identity Module (USIM), which may include an

international mobile subscriber identifier (IMSI). Further, in at least one embodiment, the temporary access credentials 30 comprise a preliminary international mobile subscriber identity (PIMSI) or other identifier that can be used by the device 10 to authenticate itself to any one of one or more network operators that accept temporary access credentials"); Shi at [0033] ("FIG. 1 illustrates an overall system of an embodiment wherein each service provider offering a VSIM service contract operates their own VSIM service contract provisioning (SCP) server 102-105."); Venkataramu at 6:60–7:17 ("Thereafter, when the user changes the UICC card of the mobile device, the mobile device recognizes that the ICCID of the newly inserted UICC card does not match the one stored in its internal database. In this manner, the mobile device realizes that this is a new UICC card, which is associated with new credentials."); Bennett at [0021] ("FIG. 1 is a system diagram illustrating a phone network having a network switching application that allows a phone to retain its number while switching from a current network to another network of a plurality of available networks using the network switching application."); Khosravi at Abstract ("establishing a secure communication channel over a communication link between the policy decision point and a policy enforcement point on the platform"); Carpenter at [0007] ("A system for binding a subscription-based computer to an internet service provider (ISP) may include a binding module and a security module residing on the computer."); Schmidt at [0025] ("In general the vSIM architecture of FIG. 1 is protected by a trusted operating system which is based on a permanently assigned trusted anchor and which supports multiple separate and trusted execution environments or sub systems.").

One of skill in the art would also have been motivated to combine the different publications and patents that were authored by employees of a given company or assigned to the same assignee and/or related to the same subject matter. Additionally, one of skill in the art would have been

motivated to combine different references that were authored, developed, or invented by the same individual(s) related to the same subject matter. The common inventor/author/architect of the references demonstrate that they relate to continued work in a common field of effort and continued related developments in that field. One of skill in the art would, therefore, combine the references related to each individual. Additionally, based on the teachings of the references and/or the knowledge of one of ordinary skill, one of skill in the art would have been motivated to combine different references from the same company. For example, a POSITA would have been motivated to combine prior art systems or products (e.g., BlackBerry Devices) with any related or applicable patent or non-patent documentation or literature relating to that system or owned by the same entity, including for the reason that these materials are related. Similarly, one of skill in the art would have been motivated to combine prior art systems or products (e.g., Windows Mobile Devices) with any related or applicable patent or non-patent documentation or literature relating to that system or owned by the same entity, including for the reason that these materials are related.

Further, below are additional motivations to combine prior art for particular claim limitations. The following discussions of specific claim limitations are merely examples and are not limiting. For example, where a POSITA would have been motivated to combine references which together render obvious limitations from the independent claims, a POSITA would have also been motivated to combine said references in such a way as to render obvious various asserted dependent claims. The motivations identified with respect to any one Asserted Patent apply with equal force to any of the other Asserted Patents by virtue of their relationship and similarities.

a. ’510 patent

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach a target credential, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a target credential. For

example, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, Gupta, as well as the charted systems, disclose electronic credentials (e.g., a SIM card that has been provisioned to a user). *See* Exs. A-01–A-10; *see also* A-A. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to using credentials assigned to a user to perform operations on a device. In addition, electronic credentials were well known as of the critical date and commonly used to authenticate a user and facilitate access to a device or network. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a target credential. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach one or more credentials for authorizing the wireless device to use a wireless access network, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses one or more credentials for authorizing the wireless device to use a wireless access network. For example, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, and Gupta, as well as the charted systems, disclose electronic credentials (e.g., a SIM card that has been provisioned to a user). *See* Exs. A-01–A-10; *see also* A-A. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to using

credentials assigned to a user to perform operations on a device, to include accessing a network. In addition, electronic credentials were well known as of the critical date and commonly used to authenticate a user and facilitate access to a device or network. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include one or more credentials for authorizing the wireless device to use a wireless access network. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a memory configured to store one or more credentials associated with [a] wireless device, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a memory configured to store one or more credentials associated with [a] wireless device. For example, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, and Gupta, as well as the charted systems, disclose electronic credentials (e.g., a SIM card that has been provisioned to a user) and a form of electronic storage. *See* Exs. A-01–A-10; *see also* A-A. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to using credentials assigned to a user to perform operations on a device, an storing these credentials. In addition, local device electronic storage was well known as of the critical date and commonly used to store user credentials associated with the host device. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a memory configured

to store one or more credentials associated with [a] wireless device. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach "a network-provisioning state change,"it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses "a network-provisioning state change." For example, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, and Gupta disclose changes or additions to communication protocols. *See* Exs. A-01–A-10; *see also* A-A. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to using credentials assigned to a user to perform operations on a device, to include accessing a network. In addition, electronic credentials were well known as of the critical date and commonly used to authenticate a user and facilitate access to a device or network. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to account for a situation in which a change or update to the provisioning associated with a wireless network occurred. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for a "target credential," it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a credential which could be deemed said "target credential." For example, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, Gupta, and Wynn disclose disclose a plurality of credentials, one of which is a target credential distinguishable from one or more non-target credentials. *See* Exs. A-01–A-10; *see also* A-A. Additionally, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, and Gupta disclose "replac[ing] a [non-target] particular credential of the one or more credentials with the target credential." *See* Exs. A-01–A-10; *see also* A-A. Several systems available at the relevant time offered functionalities involving a target credential being issued (e.g., a 4-digit token) and an existing credential being replaced with another (including, but not limited to, using over-the-air communication methods). *See* Exs. A-01–A-10; *see also* A-A. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to using identifying one credential among a plurality of credentials as a target and replacing an existing credential on a device with said target. In addition, identifying and switching electronic credentials were well known as of the critical date and commonly used to authenticate a user and facilitate access to a device or network. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to account for a situation in which a target credential is identified and replaces an existing non-target credential on a device. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge,

disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for a "determin[ing] that the particular credential does not match the target credential" and "obtain[ing] an updated credential from the network element, and assist in storing, in memory, the updated credential as the particular credential." For example, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, Gupta, and Wynn disclose disclose a determining whether the information associated with one credential matches the information associated with a target credential. *See* Exs. A-01–A-10; *see also* A-A. Additionally, several prior art references and systems, including at least Salmela, Shi, Venkataramu, Bennett, Nath, and Gupta, disclose a device obtaining and storing this "particular credential" which is compared against a target credential. *See* Exs. A-01–A-10; *see also* A-A. The prior art references and systems also disclose a memory which enables a device to store credentials therein. *See* Exs. A-01–A-10; *see also* A-A. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to obtaining and storing a credential on a device and comparing same to a target credential. In addition, obtaining, storing, and computationally comparing electronic data were well known as of the critical date and commonly used to authenticate a user and facilitate access to a device or network. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to account for a situation in which a device obtains, stores, and compares a plurality of credentials. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's

knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

b. '055 patent

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach a set of network service policies, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a set of network service policies. For example, several prior art references and systems, including at least Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose a mobile device for connecting to a wireless network in accordance with specified policies. *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to policies for using a mobile device to connect to a wireless network. In addition, policy-based network and device management was well known as of the critical date and commonly used to effectuate service provider goals and manage network bandwidth. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a set of network service policies. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a secure memory, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a secure memory. For example, several prior art references and systems, including at least Chiu, Jheng,

Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose a mobile device with a form of secure memory (e.g., a SIM card with a protected internal memory). *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally disclose storing information in a form of secure memory. In addition, using electronic security measures to secure electronic storage (e.g., encryption, secure execution environments, access conditions, passkeys, authentication) was well known as of the critical date and commonly used to control access to sensitive information prevent malicious actors from accessing this information. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a secure memory. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a WWAN modem, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a WWAN modem. For example, several prior art references and systems, including at least Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose methods for connecting to and using WWAN networks. *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally disclose performing operations over a WWAN, to include the transmission

and receiving of data. In addition, using a modem to allow a device to connect to a wireless network was well known as of the critical date and modems were commonly used to modulate and demodulate data for transmission over a network. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a WWAN modem. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a first or second service profile, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a service profile. For example, several prior art references and systems, including at least Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose methods for embodying device and user characteristics in an electronic profile (e.g., a SIM card with policies and user contacts). *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally disclose storing user and device characteristics in a profile. In addition, using electronic profiles to store and apply device and user characteristics was well known as of the critical date and commonly used to store user preferences and information for operating a mobile device (e.g., a list of contacts, a preferred network, passwords, etc.). Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a service profile. A POSITA would also have had a reasonable expectation of success in making such modifications

to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a first or second service plan, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a service plan. For example, several prior art references and systems, including at least Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose methods for controlling and metering wireless device access to a network. *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally disclose accessing wireless networks through a service provider. In addition, controlling and metering wireless network access was well known as of the critical date and commonly used to establish billing rates and set limits on device network access. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a service plan. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a connection manager, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a

connection manager. For example, several prior art references and systems, including at least Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose methods for connecting a wireless device to one or more of a plurality of wireless networks. *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally disclose using a wireless device over a plurality of wireless networks. In addition, managing a plurality of wireless networks available to a wireless device was well known as of the critical date as wireless devices were typically mobile, and thus would encounter many such wireless networks – each with different characteristics and access requirements. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a connection manager. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a connection manager, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a connection manager. For example, several prior art references and systems, including at least Chiu, Jheng, Landschaft, Hodgson, Rao, Camilleri, Liu, Nagarajan, Eriksson, as well as the charted systems disclose methods for connecting a wireless device to one or more of a plurality of wireless networks. *See* Exs. B-01–B-14; *see also* B-B. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA

would understand that each of these references generally disclose using a wireless device over a plurality of wireless networks. In addition, managing a plurality of wireless networks available to a wireless device was well known as of the critical date as wireless devices were typically mobile, and thus would encounter many such wireless networks – each with different characteristics and access requirements. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a connection manager. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

c. '429 patent

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach a secure modem subsystem, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses secure modem subsystem. For example, several prior art references and systems, including at least Carpenter, Khosravi, Schmidt, Aissi, Cha, Kamat and Ramesh, as well as the charted systems, disclose a secure modem subsystem. *See* Exs. C-01, C-02, C-3, C-05, C-06, C-07, C-08, C-10, C-11, C-12, C-13; *see also* C-C. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to secure operation of mobile computing devices, and thus constitute analogous art within the same field of endeavor. In addition, secure computing subsystems, such as secure modems, were well known as of the critical date and commonly used to protect mobile devices from malign actors. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a secure modem

subsystem. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a connecting a first or second secure control channel from the secure modem subsystem through the wireless cellular network to a network service controller, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses connecting a first or second secure control channel from the secure modem subsystem through the wireless cellular network to a network service controller. For example, several prior art references and systems, including at least Carpenter, Khosravi, Schmidt, Aissi, Cha, Kamat, Ramesh and Nishizawa, as well as the charted systems, disclose connecting a first or second secure control channel from the secure modem subsystem through the wireless cellular network to a network service controller. *See* Exs. C-01, C-02, C-3, C-05, C-06, C-07, C-08, C-10, C-11, C-12, C-13; *see also* C-C. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to ensuring secure and reliable delivery of data to and from mobile computing devices, and thus constitute analogous art within the same field of endeavor. In addition, connecting secure control channels for secure and reliable data delivery were well known as of the critical date and commonly used to protect the integrity of data sent to and from mobile devices. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include connecting a first or second secure control channel from the secure modem subsystem through the wireless cellular network to a

network service controller. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a secure execution environment, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses secure execution environment. For example, several prior art references and systems, including at least Carpenter, Schmidt, Aissi, Cha, Ramesh, Shankar and De Beer, as well as the charted systems, disclose a secure execution environment. *See* Exs. C-02, C-03, C-05, C-06, C-07, C-10, C-11, C-12, C-13; *see also* C-C. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to securing mobile devices, and thus constitute analogous art within the same field of endeavor. In addition, secure execution environments were well known as of the critical date and commonly used to protect the integrity of operation of mobile devices and to protect such devices from malign actors. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to include a secure execution environment. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach receiving at the secure execution environment, via the second secure control channel, one or more messages from the network service controller, the one or more messages comprising one or more service policy settings, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses receiving at the secure execution environment, via the second secure control channel, one or more messages from the network service controller, the one or more messages comprising one or more service policy settings. For example, several prior art references and systems, including at least Carpenter, Schmidt, Cha, Ramesh, Aissi, Shankar, De Beer, Nishizawa, Kowarsch, Bocking, Chou, and Khosravi, as well as the charted systems, disclose receiving at the secure execution environment, via the second secure control channel, one or more messages from the network service controller, the one or more messages comprising one or more service policy settings. *See* Exs. C-02, C-03, C-05, C-06, C-07, C-10, C-11, C-12, C-13; *see also* C-C. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate at to policy-based management of mobile devices, and thus constitute analogous art within the same field of endeavor. In addition, policy-based management was well known as of the critical date and commonly used to govern the operation of computing devices, including mobile devices. Thus, design and market forces would have motivated a POSITA to modify any of the primary references receive to at the secure execution environment, via the second secure control channel, one or more messages from the network service controller, the one or more messages comprising one or more service policy settings. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these

references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach storing the one or more service policy settings in a secure memory partition accessible only from the secure execution environment, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses storing the one or more service policy settings in a secure memory partition accessible only from the secure execution environment. For example, several prior art references and systems, including at least Carpenter, Schmidt, Cha, Aissi, Kowarsch, De Beer, Nishizawa, Shankar, Bocking, Chou, and Khosravi, as well as the charted systems, disclose a secure execution environment. *See* Exs. C-02, C-03, C-05 and C-07, C-10, C-11, C-12, C-13; *see also* C-C. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to secure and tamper-resistent data storage on computing devices, including mobile devices, and thus constitute analogous art within the same field of endeavor. In addition, secure storage was well known as of the critical date and commonly used to protect the integrity of data on mobile devices. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to store the one or more service policy settings in a secure memory partition accessible only from the secure execution environment. A POSITA would also have had a reasonable expectation of success in making such modifications to any primary reference. A POSITA would have understood that these references, as well as the

POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach enforcing, at least in part from the secure execution environment, a network service profile comprising the one or more service policy settings, to control the wireless end-user device use of a service on the wireless cellular network., it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses enforcing, at least in part from the secure execution environment, a network service profile comprising the one or more service policy settings, to control the wireless end-user device use of a service on the wireless cellular network. For example, several prior art references and systems, including at least Carpenter, Schmidt, Cha, Aissi, Kowarsch, De Beer, Nishizawa, Shankar, Bocking, Chou, and Khosravi, as well as the charted systems, disclose a secure execution environment. *See* Exs. C-02, C-03, C-05, C-07, C-10, C-11, C-12, C-13; *see also* C-C. It would have been obvious to a person skilled in the art to incorporate such functionality, components, and/or features. For example, a POSITA would understand that each of these references generally relate to policy-based management of mobile devices, and thus constitute analogous art within the same field of endeavor. In addition, as described above, policy-based management was well known as of the critical date and commonly used to govern the operation of computing devices, including mobile devices. Thus, design and market forces would have motivated a POSITA to modify any of the primary references to enforce, at least in part from the secure execution environment, a network service profile comprising the one or more service policy settings, to control the wireless end-user device use of a service on the wireless cellular network. A POSITA would also have had a reasonable expectation of success in making such modifications to any

primary reference. A POSITA would have understood that these references, as well as the POSITA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

3. Lack of Secondary Indicia of Nonobviousness

Samsung is not aware of any evidence that would tend to establish any secondary considerations of non-obviousness. This lack of evidence further renders the Asserted Claims obvious. Proving any such secondary considerations is Headwater's burden. *See, e.g.*, *ZUP, LLC v. Nach Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018) ("[A] patentee bears the burden of production with respect to evidence of secondary considerations of nonobviousness."). Accordingly, Samsung reserves all rights regarding its full contention in this respect until after Headwater completes its final and binding disclosure of any such evidence and contentions. In the meantime, Samsung note the complete lack of any such evidence in the record.

Headwater has disclosed no evidence of, and Samsung knows of no viable evidence to suggest:

- **<u>The alleged invention's commercial success</u>**. Indeed, no products are known to practice the Asserted Claims. To the extent Headwater has made unsupported allegations that "ItsOn software may incorporate or reflect the claims of the Asserted Patents," Headwater has first failed to make any adequate disclosure of which specific products allegedly embody any claims of any Asserted Patents; second, has failed to produce any documents, materials, or disclosures in support of its vague, baseless contention; and third, failed to provide any evidence that any such specifically embodying product was commercially successful. To the extent Headwater asserts that Samsung's products practice the Asserted Patents, Samsung denies that assertion and incorporates its responses to date and any future contentions, expert reports, and

testimony. Further, Samsung knows of no nexus between any commercial success and the Asserted Claims. *See, e.g., Windsurfing Int'l Inc. v. AMF*, 782 F.2d 995 (Fed. Cir. 1986) (considerations such as intervening, non-covered technological innovations, popularity of accessories, and advertising expense are all relevant to the nexus determination). If any commercial success is due to any of the concepts discussed in the Asserted Patents, those concepts are also present in the prior art, as described above, and thus do not support any commercial success that is relevant to the question of obviousness. *See Tokai Corp. v. Easton Enters., Inc.* , 632 F.3d 1358, 1369–70 (Fed. Cir. 2011) ("If commercial success is due to an element in the prior art, no nexus exists."); *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) ("Where the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention."); *Ormco Corp. v. Align Tech., Inc.* , 463 F.3d 1299, 1312 (Fed. Cir. 2006) ("[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.").

- **Alleged commercial success via licensing**. Headwater has presented no evidence of commercial success via a licensing program.
- **Long felt but unresolved needs**. Headwater has presented no evidence of any long felt and unresolved need.
- **No industry praise.** There is also no evidence of industry praise for the alleged invention of the Asserted Patents or any functionality that allegedly practices the Asserted Patents. To the extent any praise is related to any functionality that allegedly practices the Asserted Patents, that praise is not due to the allegedly novel features of

the Asserted Patents, but instead only to features present in the prior art, which is not a sufficient nexus to be relevant to the question of industry praise for purposes of obviousness. *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008). Praise of Samsung's mobile phones or of certain Google Android features is not praise of the Asserted Patents.

- **Unexpected results**: No evidence of any such unexpected results is known. As discussed above, the concepts contained in the Asserted Claims were already combined in the same manner as the asserted. These prior art systems, as described in the above-referenced exhibits, disclosed the same combination of elements, and the same result of that combination, that is recited in the claim. Thus, there were no unexpected results that arose from combining the well-known elements in the Asserted Claims.
- **The failure of others**. No evidence of any such failure is known.
- **Skepticism by experts**. No experts or person of skill expressed skepticism about implementing the alleged inventions.
- **Teaching away by others**. No evidence of any such teaching is known.
- **Recognition of a problem**. As discussed above, the industry recognized the problem and had already discussed multiple approaches that implemented the Asserted Claims to solve that problem.
- **Copying of the alleged invention by competitors**. No evidence of any such copying is known. *See Amazon.com, Inc. v. Barnesandnoble.com, Inc*., 239 F.3d 1343, 1366 (Fed. Cir. 2001) (allegedly copied feature must be an embodiment of the patented claims).

V. INVALIDITY UNDER 35 U.S.C. § 112

Headwater has not yet provided a claim construction for many of the terms and phrases that Samsung anticipates will be in dispute. Samsung, therefore, cannot provide a complete list of its § 112 defenses because Samsung does not know whether Headwater will proffer a construction for certain terms and phrases that is broader than, or inconsistent with, the construction that would be supportable by the disclosure set forth in the specification.

Nevertheless, Samsung contends that, at least under Headwater's actual and/or apparent application of the claims, the Asserted Claims are invalid based on inadequate written description and/or a lack of enablement under 35 U.S.C. § 112 ¶ 1, and/or based on indefiniteness under 35 U.S.C. § 112 ¶ 2.

Samsung's aforementioned identification of prior art that anticipates and/or renders obvious particular claim elements, including the attached claim charts, should not be deemed as an admission that any claim element satisfies the requirements of 35 U.S.C. § 112. While Samsung asserts below that a claim is invalid under 35 U.S.C. § 112 (such as because of a failure to particularly point out and distinctly claim the alleged invention, failure to provide written description support in the specification, and/or failure to enable one of ordinary skill in the art to make and use the alleged invention), Samsung has nonetheless provided prior art disclosures that anticipate or render obvious the claim on the assumption that Headwater will contend those claims are definite, are supported by an adequate written description, and are adequately enabled.

A. Lack of Written Description and Enablement Under 35 U.S.C. § 112 ¶ 1

Certain claims in the Asserted Patents are invalid for lack of written description. Section 112 requires that a patent specification "contain a written description . . . of the manner and process of making and using [the invention] 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 the same." 35 U.S.C. § 112 ¶ 1. A patent's written description "must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed." *Ariad Pharms., Inc. v. Eli Lilly & Co*., 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The disclosure must "convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Id.* The level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology, but a "mere wish or plan" for obtaining the alleged invention does not satisfy the written description requirement. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013). Put another way, "a description that merely renders the invention obvious does not satisfy the requirement." *Ariad*, 598 F.3d at 1351. Instead, "all the limitations must appear in the specification." *Lockwood v. Am. Airlines, Inc*., 107 F.3d 1565, 1572 (Fed. Cir. 1997). Samsung contends that, at least under Headwater's actual and/or apparent application of the claims, the specifications of at least one or more of the Asserted Patents do not include a sufficient written description supporting the claims. Moreover, Samsung contends that Headwater's actual and/or apparent application of the Asserted Claims covers a broader scope than is justified and/or supported by the written description provided in the specifications of at least one or more of the Asserted Patents. *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159 (Fed. Cir. 1998); *LizardTech, Inc. v. Earth Res. Mapping, Inc*., 424 F.3d 1336, 1346 (Fed. Cir. 2005); *ICU Med., Inc. v. Alaris Med. Sys., Inc*., 558 F.3d 1368 (Fed. Cir. 2009).

Section 112 likewise requires that the specification "enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the" alleged invention. 35 U.S.C. § 112 ¶ 1. A claim is not enabled if, "at the effective filing date of the patent, one of ordinary skill in the art could not practice their full scope without undue experimentation." *Wyeth*

and Cordis Corp. v. Abbott Labs., 720 F.3d 1380, 1384 (Fed. Cir. 2013). "This important doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented." *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012). Samsung contends that, at least under Headwater's actual and/or apparent application of the claims, the specifications of at least one or more of the Asserted Patents do not enable any person skilled in the relevant art to make and use the alleged inventions of the Asserted Claims without undue experimentation.

Furthermore, under Headwater's actual and/or apparent application of the claims, the specifications of at least one or more of the Asserted Patents do not enable the broad scope of the Asserted Claims as Headwater asserts. Samsung contends that Headwater's actual and/or apparent application of the Asserted Claims covers a broader scope than is justified, and certainly broader than is enabled in the specifications. As explained below, the specifications of at least one or more of the Asserted Patents have not enabled a person of ordinary skill in the art at the time of the alleged invention to perform the full scope of all Asserted Claims.

Each of the asserted claims below are invalid because, at least to the extent Headwater contends any of the following limitations should be construed to encompass Samsung's accused instrumentalities, the specifications fail to provide written description and/or an enabling disclosure of at least the following limitations:

1. '510 patent

- **Claims 1, 2, 7, 8–10, 23–27, 33–35 46, 47: "target credential"**
- **Claims 2, 7: "take an action"**
- **Claim 36: "programming server"**
- **Claim 48: "protected memory"**

2. ’055 patent

- **Claim 1: “secure memory”**
- **Claim 1: “selected applications resident on the device.”**
- **Claims 1, 8–9, 11: “adaptive service policy control agent”**
- **Claim 1: “application service interface”**

3. ’429 patent

- **Claims 1–12: “secure modem subsystem”**
- **Claims 1–12: “service policy setting”**
- **Claims 1–12: “secure memory partition accessible only from the secure execution environment”**
- **Claim 4: “modem agent accessible only by the network service controller”**

B. Indefiniteness Under 35 U.S.C. § 112 ¶ 2

35 U.S.C. § 112, ¶ 2 requires that a patent claim “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. Claim terms that fail to inform those skilled in the art “with reasonable certainty . . . about the scope of the invention” fail the definiteness requirement of 35 U.S.C. § 112, ¶ 2. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). Samsung contends that, at least under Headwater’s actual and/or apparent application of the claims, the Asserted Claims of the Asserted Patents fail to distinctly claim what the inventors regard as their alleged invention.

Each of the asserted claims are invalid as indefinite under 35 U.S.C. § 112 because they fail to particularly point out and distinctly claim the subject matter which the applicant regards as his invention. In particular, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

1. ’510 patent

- **Claims 1, 2, 7, 8–10, 23–27, 33–35 46, 47: “target credential”**
- **Claims 2, 7: “take an action”**
- **Claims 6, 45: “assist in restricting communications”**
- **Claims 34–35: “obtaining information from a website”**
- **Claims 38–40: “temporary credential”**
- **Claim 41: “default credential”**

2. ’055 patent

- **Claims 1, 8–9: “network service policies”**
- **Claims 1, 8–9, 11: “adaptive service policy control agent”**
- **Claim 1: “application service interface”**
- **Claim 8: “superset profile”**
- **Claim 13: “reactivate[]”**

3. ’429 patent

- **Claims 1–12: “secure modem subsystem”**
- **Claims 1–12: “secure control channel”**
- **Claims 1–12: “network service controller”**
- **Claims 1–12: “service policy setting”**

Samsung’s investigation of grounds of invalidity based upon indefiniteness is ongoing, and Samsung reserves the right to supplement these Contentions.

VI. INVALIDITY UNDER 35 U.S.C. § 101

Samsung contends that all claims of the Asserted Patents are invalid under 35 U.S.C. § 101 because the claims are not directed to patent-eligible subject matter. Samsung’s contentions that

the Asserted Claims are invalid under 35 U.S.C. § 101 do not constitute, and should not be interpreted as, 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 prior art.

35 U.S.C. § 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor[.]" Because abstract ideas form the "basic tools of scientific and technological work," they are unpatentable subject matter under 35 U.S.C. § 101. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014). The Supreme Court provided a two-part test for assessing patent eligibility under Section 101. *See generally id.*

Under the first step of *Alice* ("Step One"), a court must decide whether the claims are directed to ineligible subject matter, such as an abstract idea. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). To do so, a court examines the claims to determine whether their "character as a whole," or their "focus," is an abstract idea. *Elec. Power Grp., LLC v. Alstom S.A.,* 830 F.3d 1350, 1353 (Fed. Cir. 2016). This examination entails "identify[ing] and defin[ing] whatever fundamental concept appears wrapped up" in the claims. *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1341 (Fed. Cir. 2013) (internal quotation marks and citations omitted). Once ascertained, the court then determines whether that character is "directed to excluded subject matter," such as an abstract idea. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (internal citation omitted). This inquiry often asks whether the claims' character is directed to "a specific means or method" for improving technology or whether it is simply directed to an abstract end-result. *RecogniCorp*, 855 F.3d at 1326. If the claims are not

directed to an abstract idea, the inquiry ends. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017). To resolve this question, "it is often helpful to ask whether the claims are directed to 'an improvement in the functioning of a computer,' or merely 'adding conventional computer components to well-known business practices.'" *Affinity Labs. of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1270 (Fed. Cir. 2016) (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016)). "Generalized steps to be performed on a computer using conventional computer activity are abstract[.]" *RecogniCorp*, 855 F.3d at 1326 (internal quotation marks omitted). And "[c]laims directed to generalized steps to be performed on a computer using conventional computer activity are not patent eligible." *Affinity Labs.*, 838 F.3d at 1270 (citing *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348-49 (Fed. Cir. 2015)).

If the claims, as here, are directed to one or more abstract ideas, then the court advances to the second step of *Alice* ("Step Two"), where the claim elements must be scrutinized "both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Enfish*, 822 F.3d at 1354 (*quoting Alice,* 573 U.S. at 217). At Step Two, the court searches for an "'inventive concept' sufficient to 'transform the nature of the claim into a patent-eligible application.'" *RecogniCorp*, 855 F.3d at 1327 (quoting *Alice*, 573 U.S. at 217). To save a patent at Step Two, an inventive concept must be evident in the claims. *See Alice*, 573 U.S. at 221; *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016). The "inventive concept" must also "involve more than performance of well-understood, routine, and conventional activities previously known to the industry." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012); *Certain Elec. Devices*, 2020 WL 6441422 at *4. The Federal Circuit's "precedent is clear that merely adding

computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea." *Ericsson Inc. v. TCL Commc'n Tech. Holdings Ltd.*, 955 F.3d 1317, 1330 (Fed. Cir. 2020) (citing *Intell. Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015)). In addition, limitations that simply restrict the invention to a single field of use or merely add "token post-solution" requirements also fail to impart patentability. *Bilski v. Kappos*, 561 U.S. 593, 612 (2010).

All Asserted Claims are invalid under 35 U.S.C. § 101 because they fail to claim patent-eligible subject matter, including the following claims:

- Claims 1-48 of the '510 patent;
- Claims 1-13 of the '055 patent; and
- Claims 1-12 of the '429 patent.

A. Alice Step One: The Asserted Claims Embody Abstract Concepts

At Step One, the court must "identify and define whatever fundamental concept appears wrapped up in the claim." *Accenture Glob. Servs.*, 728 F.3d at 1341.

The independent claims of the '429, '510, and '055 patents relate to securely connecting wireless devices to networks. The independent claim of the '429 patent relates to a method of securely connecting a wireless end-user device with a wireless cellular network via more than one secure control channel. The independent claims of the '510 patent relate to automatically obtaining and replacing security credentials if a device detects a change in network security settings. The independent claim of the '055 patent relates to choosing a network connection based on network services policies , and policies associated with the profiles are enforced at an application service interface.

At the most basic level, the Asserted Claims are linked to the same abstract idea of managing information flow and resource allocation, including by simply setting and applying rules, which is a long prevalent human activity. Because the Asserted Claims fail to offer anything more than using generic pre-existing computer functionality to carry out the abstract idea of prioritizing information flow and resource allocation, the Asserted Claims are abstract at Step One.

B. Alice Step Two: The Asserted Claims Do Not Recite an Inventive Concept

For a claim to be patent eligible under *Alice* Step Two, "an inventive concept must be evident in the claims," *RecogniCorp*, 855 F.3d at 1327, and it must provide "significantly more" than the abstract idea itself, *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1289-90 (Fed. Cir. 2018). In performing this analysis, a court must scrutinize the claim elements "both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Enfish*, 822 F.3d at 1354 (quoting *Alice*, 573 U.S. at 217). Elements that are "well-understood, routine, conventional," or "purely functional" cannot confer patent-eligibility. *Alice*, 573 U.S. at 225-26 (citation omitted). Admittedly, the claims relate to the same "general communication device" described in generic terms in the specification and the claimed process carried out on a generic processor is performed using well-known standards. Thus, there is no particularized solution to any problem, and nothing that can pass Step 2 of *Alice*.

The Asserted Claims recite only conventional, well known components and functionalities, and do not recite any purportedly novel arrangement of those components. As set forth in Exhibits A-01 through C-13, Exhibits A-A through C-C, and/or through applicant-admitted prior art, individually and/or collectively, these features were well known, routine, and/or conventional, and known in the prior art as set forth herein.

VII. Document Production

Pursuant to Patent Rule 3-4, Samsung is concurrently producing the prior art identified in these Invalidity Contentions, but Samsung is not required to produce the prior art in the file histories of the Asserted Patents.

In addition, based on investigations to date, Samsung is concurrently producing and/or making available for inspection source code, specifications, schematics, flow charts, artwork, formulas, or other documentation sufficient to show the operation of any aspects or elements of the Accused Instrumentalities identified by Headwater in its P.R. 3-1(c) chart.

Samsung reserves the right to supplement these productions with additional documentation, in accordance with the Federal Rules of Civil Procedure, the Local Rules, the Court's orders and other applicable rules and statutes.

Dated: September 12, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing was served on counsel of record for Plaintiff via electronic mail on September 12, 2024.

/s/ Ashley A. Bolt
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