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

MULLEN INDUSTRIES LLC, *Plaintiff* v. SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC., *Defendants*.	§ § § § § § § § § § § §	Case No. 2:24-cv-00049-JRG JURY TRIAL DEMANDED

DEFENDANTS SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA, INC.'S AMENDED INVALIDITY CONTENTIONS

I. INTRODUCTION

Pursuant to the Court's Docket Control Order (Dkt. No. 30) and Patent Local Rules 3-3 and 3-4, Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. ("Samsung") provide these amended invalidity contentions ("Invalidity Contentions") to Plaintiff Mullen Industries LLC ("Mullen") for the following patents (collectively, "Asserted Patents") and claims (collectively, "Asserted Claims") identified as asserted in Mullen's Disclosure of Asserted Claims and Infringement Contentions ("Infringement Contentions") served on May 15, 2024:

- U.S. Patent No. 8,374,575 ("'575 Patent") — Claims 1–3, 6, 8, 13, 23, 24, 26, 28, 30–32, 35, 37–40, 42, and 44 ("'575 Asserted Claims")
- U.S. Patent No. 9,204,283 ("'283 Patent") — Claims 1, 2, 6, 8, 9, 13, and 15–17 ("'283 Asserted Claims")
- U.S. Patent No. 9,635,540 ("'540 Patent") — Claims 1–7, 13–21, 23, 26, 28–33, and 35 ("'540 Asserted Claims")
- U.S. Patent No. 11,096,039 ("'039 Patent") — Claims 1, 4, 7–9, and 13 ("'039 Asserted Claims")

- U.S. Patent No. 11,109,218 ("'218 Patent") — Claims 11–15 ("'218 Asserted Claims")

- U.S. Patent No. 11,122,418 ("'418 Patent") — Claims 1, 2, 6, 7, 10, 13, and 17 ("'418 Asserted Claims")

- U.S. Patent No. 11,234,117 ("'117 Patent") — Claims 1–92 ("'117 Asserted Claims")

- U.S. Patent No. 11,246,024 ("'024 Patent") — Claims 1–14, 16–20, 22–35, 37–41, 43–50, 53–57, 59–69, 71–75, 77, and 78 ("'024 Asserted Claims")

- U.S. Patent No. 11,190,633 ("'633 Patent") — Claims 1–39 ("'633 Asserted Claims")

Samsung addresses the invalidity of the Asserted Claims and concludes with a description of its document production and identification of additional reservations and explanations. These Invalidity Contentions use the acronym "PHOSITA" to refer to a person having ordinary skill in the art to which the alleged invention pertains.

Mullen claims priority dates of: (1) March 25, 2002, for the '575, '283, '540, '039, '218, '418, '117, and '024 Asserted Claims, and (2) March 14, 2003 for the '633 Asserted Claims. However, as explained in further detail below, the '575, '283, '540, '039, '218, '418, '117, and '024 Asserted Claims are not entitled to a priority date earlier than March 25, 2003, and the '633 Asserted Claims are not entitled to a priority date earlier than March 9, 2004. For simplicity and given Mullen's claimed priority dates, these Invalidity Contentions apply and reference Pre-AIA law. This is in no way a concession that Mullen is entitled to its claimed priority dates. The prior art identified in these Invalidity Contentions is also prior art under post-AIA 35 U.S.C. § 102. Except where noted, the same invalidity defenses and grounds raised in these Invalidity Contentions could also be raised under post-AIA law.

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II. ’575 PATENT

A. Priority Date

The application for the ’575 Patent was filed on March 22, 2006. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the ’575 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 (’967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the ’967 Provisional are substantially different from the specification of the ’575 Patent, as numerous elements of the ’575 Patent specification and figures are absent from the ’967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the ’967 Provisional provide written description for the ’575 Asserted Claims.

In view of the substantial differences between the disclosures, the ’575 Asserted Claims cannot claim priority to the ’967 Provisional. For example, the ’967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- “transmitting said location from said first wireless telephone to a remote server” (claims 1, 13)
- “changing, at the direction of said first wireless telephone, a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location” (claim 1)
- “transmitting said location from said remote server to at least one of said users of said list of users” (claim 1)

- "providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location" (claim 1)
- "changing a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones" (claim 13)
- "transmitting an alert message, comprising information associated with said location, from said remote server to a user of said list of users when said user is within a certain distance of said location" (claim 13)
- "providing directional information to said wireless telephone associated with said user, wherein said directional information is representative of directions between said location and said second location" (claim 13)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '575 Asserted Claims combinations at the later stages of the case, after Mullen identifies the basis for its claims of priority and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '575 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the '575 Patent is entitled to a different priority date.

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B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the ’575 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen’s apparent interpretation of the claims. References that are marked with an asterisk (“*”) are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the ’575 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits A1 through A23. To the extent Mullen contends that any of these references are not enabling, then the ’575 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
A1*	US 2004/0024846 (Randall)	Great Britain	August 22, 2001	February 5, 2004
A2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
A3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10, 2002
A4*	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
A5*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
A6*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
A7*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
A8*	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
A9*	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
A10 *	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
A11	US 7,284,033 (Jhanji)	United States	December 13, 2000	July 3, 2003
A12	US 6,944,443 (Bates)	United States	July 11, 2001	January 16,

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Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
				2003
A13 *	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
A14 *	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
A15	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
A16	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001
A17	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000
A18	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
A19	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
A20 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
A21 *	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
A22	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
A23	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '575 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits A24-A27. The following systems anticipate or render obvious each of the '575 Asserted Claims.

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1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Qualcomm's gpsOne™* system ("gpsOne"). gpsOne qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than November 18, 1999, or (2) reduced to practice in the United States no later than November 18, 1999 without being abandoned, suppressed, or concealed. To support gpsOne's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit A24.
    a. S*napTrack Announces Commercial Availability of SnapWARN Global Positioning Satellite Data Feed to Support gpsOne-based E911 Wireless Location Systems for Cell Phone Safety*, Qualcomm (Oct. 7, 2001), https://www.qualcomm.com/news/releases/2001/10/snaptrack-announces-commercial-availability-snapwarn-global-positioning ("SnapTrack").
    b. *Qualcomm Announces Mobile-Based Capability for gpsOne Technology*, Qualcomm (Jan. 15, 2002), https://www.qualcomm.com/news/releases/2002/01/qualcomm-announces-mobile-based-capability-gpsone-technology ("Mobile-Based Capability for gpsOne").
    c. *Qualcomm Announces Over One Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (May 7, 2002), https://www.qualcomm.com/news/releases/2002/05/qualcomm-announces-over-one-million-subscribers-served-gpsone-enabled ("Over One Million Subscribers").
    d. *Qualcomm Announces More Than Five Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (Nov. 17, 2002), https://www.qualcomm.com/news/releases/2002/11/qualcomm-announces-more-five-million-subscribers-served-gpsone-enabled ("Five Million Subscribers").
    e. *Qualcomm Congratulates Hutchison CAT for the First Launch of gpsOne™-Enabled Consumer Mobile Phone Location Services in Southeast Asia*, Qualcomm (Jan. 27, 2004), https://www.qualcomm.com/news/releases/2004/01/qualcomm-congratulates-hutchison-cat-first-launch-gpsone-enabled-consumer ("Hutchison").
    f. WO 2000/029868 ("Soliman"), published May 25, 2000, and filed Nov. 18, 1999
    g. Samir Soliman et al., *gpsOne™: A Hybrid Position Location System, 2000 IEEE Sixth International Symposium on Spread Spectrum Techniques and Applications* ("Soliman Publication")
    h. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution*, PR Newswire Europe (Oct. 10, 1999)
    i. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution; Integrated CDMA Chipset and Software Solution Under Development to Meet Future*

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Market Demand for Position Location Services, PR Newswire (Oct. 11, 1999, 1:02 ET)

j. *Qualcomm Debuts Multimedia Chipset*, Radio Comm. Report (Feb. 28, 2000)

k. *Qualcomm Previews Wireless Location Chips*, Global Positioning & Navigation News (Feb. 23, 2000)

l. *Qualcomm Unveils Devt Plans For Mobile Station Modem Pdts*, Dow Jones News Service (Oct. 11, 1999, 7:07 PM GMT)

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300* system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit A25.

a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)

b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)

c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)

d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)

e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/

f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)

g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27

h. Sprint PCS SPH-N300 User Manual, Sprint

i. Samsung SPH-N300 User Manual, Samsung

j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!*

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system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit A26.

a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

4. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit A27.

a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)

[redacted]

d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section II.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. *See Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1058 (Fed. Cir. 2016); *Intercontinental Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1344 (Fed. Cir. 2017); *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, and instead applying an "expansive and flexible" approach). Indeed, the Supreme Court held that a PHOSITA is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle." *KSR*, 127 S. Ct. at 1742. Nevertheless, in addition to the information contained in the section

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immediately above and elsewhere in these contentions, Samsung hereby identifies motivations and reasons to combine.

One or more combinations of the prior art references identified above would have been obvious because these references would have been combined using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. *See Apple*, 839 F.3d at 1077; *Intercontinental Great Brands*, 869 F.3d at 1344. In addition, it would have been obvious to try combining the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. *See ACCO Brands Corp. v. Fellowes, Inc.*, 813 F.3d 1361, 1367 (Fed. Cir. 2016); *Sanofi-Aventis Deutschland GmbH v. Glenmark Pharms. Inc., USA*, 748 F.3d 1354, 1360 (Fed. Cir. 2014); *Bayer Pharma AG v. Watson Labs., Inc.*, 874 F.3d 1316, 1329 (Fed. Cir. 2017); *KSR*, 127 S. Ct. at 1742. Further, the combinations of the prior art references identified above and in the claim charts would have been obvious because the combinations represent known potential options with a reasonable expectation of success. *See InTouch Techs., Inc. v. VGO Comms., Inc.*, 751 F.3d 1327, 1347 (Fed. Cir. 2014).

Additional evidence that there would have been a motivation to combine the prior art references identified above includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged inventions; and the background knowledge that would have been possessed by a PHOSITA. *See*

Arctic Cat Inc. v. Bombardier Recreational Prod. Inc., 876 F.3d 1350, 1359 (Fed. Cir. 2017); *Intercontinental Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1344 (Fed. Cir. 2017); *Unwired Planet, LLC v. Samsung Inc.*, 841 F.3d 995, 1003 (Fed. Cir. 2016); *Norgren Inc. v. Int'l Trade Comm'n*, 699 F.3d 1317, 1322-23 (Fed. Cir. 2012).

The motivation to combine the teachings of the prior art references disclosed herein is also found in the references themselves and in: (1) the nature of the problem being solved; (2) the express, implied and inherent teachings of the prior art; (3) the knowledge of PHOSITAs; (4) the predictable results obtained in combining the different elements of the prior art; (5) the predictable results obtained in simple substitution of one known element for another; (6) the use of a known technique to improve similar devices, methods, or products in the same way; (7) the predictable results obtained in applying a known technique to a known device, method, or product ready for improvement; (8) the finite number of identified predictable solutions that had a reasonable expectation of success; and (9) known work in various technological fields that could be applied to the same or different technological fields based on design incentives or other market forces. *See* above legal background regarding obviousness combinations and M.P.E.P. § 2143.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits A1-A27. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses,

travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the ’575 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section II.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’575 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’575 Asserted Claims (hereinafter “Primary References”).

- Randall
- Rice
- Sandhu
- Meadows
- Futagami
- Obradovich
- Sheha
- Enzmann
- Fomukong
- Thomas
- Bates
- De Vries
- Wollrab
- Tanaka
- Tachikawa
- Degnbol

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- gpsOne
- SP(C)H-N300
- Benefon Esc!
- CellPoint Finder!

3. Obviousness Of Modifying and/or Changing Access Rights

The ’575 Asserted Claims recite limitations relating to modifying or changing access rights. For example, these limitations appear in the following claims:

- Claim Element 1(c): “changing, at the direction of said first wireless telephone, a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones”
- Claim 2: “wherein said changing comprises adding an additional user to said list of users”
- Claim Element 13(c): “changing a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones”
- Claim 23: “wherein said changing comprises adding an additional user to said list of users”
- Claim Element 30(b): “changing, at the direction of said first wireless telephone, a list of users on a remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones”
- Claim 31: “wherein said changing comprises adding an additional user to said list of users”

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- Claim Element 38(b): "changing a list of users on a remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones"
- Claim 39: "wherein said changing comprises adding an additional user to said list of users"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose modifying or changing access rights.

- Randall. *See* Ex. A1 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Rice. *See* Ex. A2 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Sandhu. *See* Ex. A3 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Futagami. *See* Ex. A5 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Sheha. *See* Ex. A7 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Fomukong. *See* Ex. A9 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Thomas. *See* Ex. A10 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Jhanji. *See* Ex. A11 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- De Vries. *See* Ex. A13 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Tanaka. *See* Ex. A19 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Tachikawa. *See* Ex. A20 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Degnbol. *See* Ex. A21 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- SP(C)H-N300. *See* Ex. A25 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- Benefon Esc! *See* Ex. A26 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.
- CellPoint Finder! *See* Ex. A27 at Claims 1(c), 2, 13(c), 23, 30(b), 31, 38(b), 39.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing modifying or changing access rights for a number of reasons. Users of mobile devices may, for example, wish to modify or change location access rights for certain requestors at specified times or after reviewing additional information such as the name of the requesting party. *See* Futagami, 16:7-21. For instance, "the burden of adding and maintaining contacts using many conventional systems [was] considerable," so a PHOSITA would

have found it obvious to allow "a communication channel [to] be opened even if the called entity, Alice, has changed her telephone number and has failed to notify the calling entity, Bob." Randall at [0059]. Thus, it would have been obvious to a PHOSITA that a user's initial preference for access rights may change at any time and it would have been obvious to allow a user to control the disclosure of their location information to extend, limit, or terminate access rights to specific individuals after the initial determination. *See, e.g.*, Futagami, 17:34-47.

In addition, it would have been obvious for a user to control access rights based on "the *activity* in which the user is currently engaged … so that notifications can be provided on different bases for a business meeting as opposed to a church or club social" or "for different *locations*, such that notifications are provided on a different basis in a movie theatre, than in a shopping mall or library." De Vries, 8:41-54 (emphasis added); Randall at [0141] ("The user must be able to change their setting in line with the activity they are currently attempting. They must also be able to access their Identity directly to make such changes. It must be a simple step (preferably a single step) to change a visibility setting, in particular location information."). "For example, the user could define an 'at work' mode, where the user is visible to and enables notifications about co-workers and clients within a narrow proximity threshold, but is not visible to and disables notifications about the user's friends." *Id.*, 9:66-10:3. Also, "[i]t is likely that the user will want to change some information on an ad hoc basis (i.e. Location information) for a specific period of time, i.e. for the half hour that the group of friends are trying to locate each other in town." Randall at [0143]. "For example, the user … could designate that the 'at work' mode is to be effective during work hours Monday through Friday …." De Vries, 10:15-19. Thus, a PHOSITA would have been motivated and found it obvious to combine the teachings of the foregoing references disclosing modifying or changing access rights for at least the reasons stated above.

[redacted]

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include modifying or changing access rights to the extent not already disclosed by the Primary Reference.

4. Obviousness Of Providing and/or Displaying Directions, Distance, or Time to Travel

The ’575 Asserted Claims recite limitations relating to providing and/or displaying directions, distance, or time to travel. For example, these limitations appear in the following claims:

- Claim Element 1(f): “providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location”
- Claim 8: “further comprising determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones”
- Claim Element 13(f): “providing directional information to said wireless telephone associated with said user, wherein said directional information is representative of directions between said location and said second location”
- Claim 28: “further comprising determining the distance between said first wireless telephone and said wireless telephones associated with said user”
- Claim Element 30(e): “providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location”
- Claim 37: “further comprising determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones”

- Claim Element 38(e): "providing directional information to said wireless telephone associated with said user, wherein said directional information is representative of directions between said location and said second location"
- Claim 44: "further comprising determining the distance between said first wireless telephone and said wireless telephones associated with said user"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing and/or displaying directions, distance, or time to travel.

- Rice. *See* Ex. A2 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Meadows. *See* Ex. A4 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Obradovich. *See* Ex. A6 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Sheha. *See* Ex. A7 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Ozaki. *See* Ex. A15 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Ryden. *See* Ex. A18 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Tachikawa. *See* Ex. A20 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Degnbol. *See* Ex. A21 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- Benefon Esc! *See* Ex. A26 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.
- CellPoint Finder! *See* Ex. A27 at Claims 1(f), 8, 13(f), 28, 30(e), 37, 38(e), 44.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing providing and/or displaying directions, distance, or time to travel for a number of reasons. For example, providing and/or displaying directions, distance, or time to travel to a point of interest would have been obvious to a PHOSITA because doing so digitally "eliminat[es] having to write down information such as name, address, location map, GPS latitude and longitude encoding, direction and distance to location, hours of operation, or other items of information." Obradovich, 3:13-16. In addition, "[t]he [Personal Communication Device] can be plugged into an automobile input port or similar device, if available, and provide distances and directions to locations of interest," *id.*, 3:17-19, which enables hands-free navigation using at least the device's microphone and speakers. *Id.*, 13:16-18, 1:44-51. "During actual

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traveling, … a portion of the guided route [is] displayed in a map display area of the monitor screen, and the portion of the guided route is highlighted so as to be discriminable from other routes." *Id.*,1:57-61. "When the vehicle is within a predetermined distance of an intersection it is approaching, an intersection guidance diagram (an enlarged or highlighted intersection diagram with an arrow indicating the direction in which the vehicle is to turn at the intersection) is displayed to inform a driver of the desired one of roads or directions selectable at the intersection." Wako, 1:61-67.

Moreover, providing and/or displaying travel distances allows the user to estimate time of arrival and account for weather, traffic, and alternative routes. For example, "[t]he map information made available to the [Personal Communication Device] and stored by the [Personal Communication Device] contains distance information. The [Personal Communication Device] therefore is able to make use of the traffic speed information and the distance information to determine travel times for the various route and route alternative segments." Obradovich, 22:45-50. "Real time calculation and display of segment travel times accordingly allows the [Personal Communication Device] user to accurately determine and estimate travel times to particular destinations over a plurality of different roads and road segments." *Id.*, 22:50-54. An estimated travel time, time of arrival, and real-time driving directions would also allow others to follow the user's course for purposes of meeting at a predetermined location. For example, users having access to "each other's position information, … can be used for real-time driving directions or collaboration purposes." Sheha at [0023]. Thus, a PHOSITA would have been motivated and found it obvious to combine the teachings of the foregoing references disclosing providing and/or displaying directions, distance, or time to travel for at least the reasons stated above.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include providing and/or displaying directions, distance, or time to travel to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Section 112, ¶ 2 includes a definiteness requirement: "[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2. "[A] patent is invalid for indefiniteness if its claims, read in light of the patent's specification and prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

35 U.S.C. § 112 further includes an enablement requirement: "The specification shall 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. To satisfy the enablement requirement, the "[t]he specification must contain sufficient disclosure to enable an ordinarily skilled artisan to make and use the entire scope of the claimed invention at the time of filing." *Enzo Life Sciences, Inc. v. Roche Molecular Sys., Inc.*, 928 F.3d 1340, 1345 (Fed. Cir. 2019) (quoting *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012)). A patent is invalid if "a person of ordinary skill in the art would not be able to practice the claimed invention without 'undue experimentation.'" *Id.* (quoting *Alcon Res. Ltd. v. Barr Labs, Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014)). Moreover, "a patentee cannot

simply rely on the knowledge of a person of ordinary skill to serve as a substitute for the missing information in the specification." *Id.* at 1348 (quotations omitted).

35 U.S.C. § 112 further includes a written description requirement: "The specification shall contain a written description of the invention . . . ." 35 U.S.C. § 112, ¶ 1. "That requirement is satisfied only if the inventor conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and demonstrates that by disclosure in the specification of the patent." *Nuvo Pharm. (Ireland) Designated Activity Co. v. Dr. Reddy's Labs, Inc.*, 923 F.3d 1368, 1376 (Fed. Cir. 2019) (quotations omitted). "The essence of the written description requirement is that a patent applicant, as part of the bargain with the public, must describe his or her invention so that the public will know what it is and that he or she has truly made the claimed invention." *Id.* at 1376-77 (quotations omitted). "[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art…. [to] show that the inventor actually invented the invention claimed." *Rivera v. Int'l Trade* Comm'n, 857 F.3d 1315, 1319 (Fed. Cir. 2017) (quoting *Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc)). The specification must describe the claimed invention in sufficient detail so that a PHOSITA can recognize what is claimed. "[T]he appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy § 112, ¶ 1 because it may not both put others on notice of the scope of the claimed invention and demonstrate possession of that invention." *Nuvo Pharm*. 923 F.3d at 1380 (quotations omitted).

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the '575 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight

when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The ’575 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- “directional information” (claims 1, 13, 30, 38)
- “wherein said directional information is representative of directions between said location and said second location” (claims 1, 13, 30, 38)
- “said one user” / “said user” (claims 13, 38)
- “said wireless telephone associated with said one user” (claim 13)
- “determining a third location associated with said wireless telephone associated with said user” (claim 26)
- “determining the distance between said first wireless telephone and said wireless telephones associated with said user” (claims 28, 44)
- “said first wireless telephone” (claims 30, 38)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The ’575 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "each user of said list of users is representative of one of a plurality of wireless telephones” (claims 1, 30)
- “a list of users on said remote server for a profile associated with said first wireless telephone” (claims 1, 13, 30, 38)
- “providing directional information to said one of said plurality of wireless telephones” (claims 1, 30)
- “providing directional information to said wireless telephone associated with said user” (claims 13, 38)

[redacted]

- "wherein said directional information is representative of directions between said location and said second location" (claims 1, 13, 30, 38)
- "determining a third location associated with said wireless telephone associated with said user" (claim 26)
- "determining the distance between said first wireless telephone and said wireless telephones associated with said user (claims 28, 44)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '575 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "each user of said list of users is representative of one of a plurality of wireless telephones" (claims 1, 30)
- "a list of users on said remote server for a profile associated with said first wireless telephone" (claims 1, 13, 30, 38)
- "providing directional information to said one of said plurality of wireless telephones" (claims 1, 30)
- "providing directional information to said wireless telephone associated with said user" (claims 13, 38)
- "wherein said directional information is representative of directions between said location and said second location" (claims 1, 13, 30, 38)
- "determining a third location associated with said wireless telephone associated with said user" (claim 26)
- "determining the distance between said first wireless telephone and said wireless telephones associated with said user (claims 28, 44)

III. '283 PATENT

A. Priority Date

The application for the '283 Patent was filed on August 3, 2006. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the '283 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 ('967 Provisional). However, Mullen bears

a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the ’967 Provisional are substantially different from the specification of the ’283 Patent, as numerous elements of the ’283 Patent specification and figures are absent from the ’967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the ’967 Provisional provide written description for the ’283 Asserted Claims.

In view of the substantial differences between the disclosures, the ’283 Asserted Claims cannot claim priority to the ’967 Provisional. For example, the ’967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- “determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users” (claim 1)
- “wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device” (claim 1)
- “and said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device” (claim 1)
- “transmitting said location information from a server to said first wireless telephonic device” (claim 1)

- "determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login, that identifies the user of said first wireless device from a plurality of users, and password received by said first wireless device that is associated with said login and determining whether said user is associated with said permission" (claim 15)
- "said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device" (claim 15)
- "providing location information to said first wireless device based on said determination" (claim 15)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '283 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '283 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the '283 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the '283 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen's apparent interpretation of the claims. References that are marked with an asterisk ("*") are anticipatory.

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1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the ’283 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits B1 through B26. To the extent Mullen contends that any of these references are not enabling, then the ’283 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
B1*	US 2004/0024846 (Randall)	Great Britain	August 22, 2001	February 5, 2004
B2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
B3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10, 2002
B4*	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
B5*	US 6,714,791 (Friedman)	United States	February 23, 2001	August 29, 2002
B6*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
B7*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
B8*	US 6,553,236 (Dunko)	United States	March 28, 2000	April 22, 2003
B9*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
B10 *	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
B11 *	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
B12 *	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
B13	US 2002/0069312 (Jones)	United States	July 3, 2001	June 6, 2002
B14 *	US 7,284,033 (Jhanji)	United States	December 13, 2000	July 3, 2003
B15 *	US 6,944,443 (Bates)	United States	July 11, 2001	January 16, 2003
B16 *	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005

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Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
B17	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
B18	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
B19 *	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001
B20	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000
B21	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
B22 *	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
B23 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
B24 *	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
B25	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
B26 *	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '283 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits B27-B29. The following systems anticipate or render obvious each of the '283 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300* system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than

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October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit B27.

a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)
b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)
c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/
f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)
g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
h. Sprint PCS SPH-N300 User Manual, Sprint
i. Samsung SPH-N300 User Manual, Samsung
j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit B28.

a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)

[redacted]

d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit B29.
   a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
   b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
   c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)
   d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
   e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
   f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In

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addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section III.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '283 Patent. See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits B1-B29. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

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Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the ’283 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section III.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’283 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’283 Asserted Claims (hereinafter “Primary References”).

- Randall
- Rice
- Sandhu
- Meadows
- Friedman
- Futagami
- Obradovich
- Dunko
- Sheha
- Enzmann
- Fomukong
- Thomas
- Jhanji
- Bates
- De Vries
- Han
- Tanaka
- Tachikawa
- Degnbol
- Okubo
- Benefon Esc!
- CellPoint Finder!

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3. Obviousness Of Receiving Login and Password Information

The ’283 Asserted Claims recite limitations relating to receiving login and password information. For example, these limitations appear in the following claims:

- Claim Element 1(c): “receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password”
- Claim Element 8(c): “receiving manual input entered into said wireless device that includes a login and a password”
- Claim 17: “wherein said password is received on a first display screen”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving login and password information.

- Randall. *See* Ex. B1 at Claims 1(c), 8(c), 17.
- Rice. *See* Ex. B2 at Claims 1(c), 8(c), 17.
- Sandhu. *See* Ex. B3 at Claims 1(c), 8(c), 17.
- Meadows. *See* Ex. B4 at Claims 1(c), 8(c), 17.
- Friedman. *See* Ex. B5 at Claims 1(c), 8(c), 17.
- Futagami. *See* Ex. B6 at Claims 1(c), 8(c), 17.
- Sheha. *See* Ex. B9 at Claims 1(c), 8(c), 17.
- Enzmann. *See* Ex. B10 at Claims 1(c), 8(c), 17.
- Thomas. *See* Ex. B12 at Claims 1(c), 8(c), 17.
- Jhanji. *See* Ex. B14 at Claims 1(c), 8(c), 17.
- Han. *See* Ex. B19 at Claims 1(c), 8(c), 17.
- Tanaka. *See* Ex. B22 at Claims 1(c), 8(c), 17.
- Okubo. *See* Ex. B26 at Claims 1(c), 8(c), 17.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving login and password information for a number of reasons. Users of wireless devices may, for example, may include an authentication process for client applications such as requesting a login and password to allow restricted access to the location information of the mobile device. *See* Thomas at [0041]. Authentication

mechanisms can include a basic password to gain access. Randall at [0380]. For example, "when a location monitoring request is received from a monitoring party, prior to performing the server-side location monitoring processing, the monitoring party must login with an appropriate user name and/or password." Thomas at [0041]; Rice at [0014] ("When a request for location information is made by a client application, before steps are performed in providing location information, the authentication and authorization process for most requests is performed."). "This allows restricted access to the location information." Thomas at [0041].

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include receiving login and password information to the extent not already disclosed by the Primary Reference.

4. Obviousness Of Locating Wireless Phones, Requesting or Transmitting Locations from or to Server/Remote System and Then to Other Wireless Phones, and Storing A History of Locations

The '283 Asserted Claims recite limitations relating to locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations. For example, these limitations appear in the following claims:

- Claim Element 1(e): "transmitting said location information from a server to said first wireless telephonic device"
- Claim Element 8(e): "transmitting said location information to said wireless device based on said determination"
- Claim Element 15(b): "locating said second wireless device"
- Claim Element 15(d): "providing location information to said first wireless device based on said determination"

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations.

- Randall. *See* Ex. B1 at Claims 1(e), 8(e), 15(b), 15(d).
- Rice. *See* Ex. B2 at Claims 1(e), 8(e), 15(b), 15(d).
- Sandhu. *See* Ex. B3 at Claims 1(e), 8(e), 15(b), 15(d).
- Meadows. *See* Ex. B4 at Claims 1(e), 8(e), 15(b), 15(d).
- Obradovich. *See* Ex. B7 at Claims 1(e), 8(e), 15(b), 15(d).
- Dunko. *See* Ex. B8 at Claims 1(e), 8(e), 15(b), 15(d).
- Sheha. *See* Ex. B9 at Claims 1(e), 8(e), 15(b), 15(d).
- Enzmann. *See* Ex. B10 at Claims 1(e), 8(e), 15(b), 15(d).
- Fomukong. *See* Ex. B11 at Claims 1(e), 8(e), 15(b), 15(d).
- Thomas. *See* Ex. B12 at Claims 1(e), 8(e), 15(b), 15(d).
- Bates. *See* Ex. B15 at Claims 1(e), 8(e), 15(b), 15(d).
- De Vries. *See* Ex. B16 at Claims 1(e), 8(e), 15(b), 15(d).
- Wollrab. *See* Ex. B17 at Claims 1(e), 8(e), 15(b), 15(d).
- Han. *See* Ex. B19 at Claims 1(e), 8(e), 15(b), 15(d).
- Tachikawa. *See* Ex. B23 at Claims 1(e), 8(e), 15(b), 15(d).
- Okubo. *See* Ex. B26 at Claims 1(e), 8(e), 15(b), 15(d).

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations for a number of reasons. For example, a PHOSITA would have been motivated and found it obvious to combine and apply these teachings so that a mobile user can obtain the location of another mobile user and allow others to track his or her location. *See* Sandhu at [0009]. For instance, a parent may want to "track a child's location within a wide geographical area from a remote location." Meadows, 1:44-46. Thus, "there is a need for a monitoring system that can detect the geographical location of one or more individuals and provide this information to another at a remote location." *Id*., 1:64-67. The location of the mobile user may also be stored

so it could be used for various client applications. *See* Rice at [0010]. For example, a location server may collect location data and location primitives for designated wireless devices and then provide this information to requesting applications. Rice at [0024].

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations to the extent not already disclosed by the Primary Reference.

5. Obviousness Of Determining If the Second Device has Access Rights/Permission

The ’283 Asserted Claims recite limitations relating to determining if the second device has access rights/permission. For example, these limitations appear in the following claims:

- Claim Element 1(d): “determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users, wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device, and said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device”
- Claim Element 8(d): “determining whether to transmit location information associated to said first wireless telephonic device from a server to said wireless

[redacted]

device, wherein said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device and determining whether said first wireless telephonic device has provided access rights for said location information for said identified user and said server is located remotely from said wireless device, said first wireless telephonic device, and said second wireless telephonic device, and said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device;"

- Claim Element 15(c): "determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login, that identifies the user of said first wireless device from a plurality of users, and password received by said first wireless device that is associated with said login and determining whether said user is associated with said permission, and said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device;"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose determining if the second device has access rights/permission.

- Randall. *See* Ex. B1 at Claims 1(d), 8(d), 15(c).
- Rice. *See* Ex. B2 at Claims 1(d), 8(d), 15(c).
- Sandhu. *See* Ex. B3 at Claims 1(d), 8(d), 15(c).
- Meadows. *See* Ex. B4 at Claims 1(d), 8(d), 15(c).
- Futagami. *See* Ex. B6 at Claims 1(d), 8(d), 15(c).
- Sheha. *See* Ex. B9 at Claims 1(d), 8(d), 15(c).
- Enzmann. *See* Ex. B10 at Claims 1(d), 8(d), 15(c).
- Fomukong. *See* Ex. B11 at Claims 1(d), 8(d), 15(c).

- Thomas. *See* Ex. B12 at Claims 1(d), 8(d), 15(c).
- Jhanji. *See* Ex. B14 at Claims 1(d), 8(d), 15(c).
- Tanaka. *See* Ex. B22 at Claims 1(d), 8(d), 15(c).
- Tachikawa. *See* Ex. B23 at Claims 1(d), 8(d), 15(c).
- Benefon Esc! *See* Ex. B28 at Claims 1(d), 8(d), 15(c).
- CellPoint Finder! *See* Ex. B29 at Claims 1(d), 8(d), 15(c).

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing determining if the second device has access rights/permission for a number of reasons. For example, a mobile user may wish to limit who has access to his or her current location through privacy preferences. *See* Sandhu at [0024]; Rice at [0008]. Privacy preferences may include "total denial of access, limited access during a specified time period, limited access to a particular type of entity making the request, access only granted to request of a particular granularity, and access only granted when the wireless communications device is within a particular geographic region." Rice at [0008]. Access can be denied if a mobile user is not authorized to view the location information of the wireless device. Thomas at [0050]. The ability to deny access to one's location information provides a security feature which was well-known in the art. *See* Rice at [0044]. Thus, a PHOSITA would have been motivated and found it obvious to determine if the second device has access rights/permission for a number of reasons, including privacy and security preferences of the mobile user.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include determining if the second device has access rights/permission to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Modifying/Changing Access Rights

The '283 Asserted Claims recite limitations relating to modifying/changing access rights. For example, these limitations appear in the following claims:

- Claim 6: "further comprising receiving a third manual input, wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device and said third manual input modifies said location access rights"
- Claim 13: "further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device and said third manual input modifies said location access rights"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose modifying/changing access rights.

- Randall. *See* Ex. B1 at Claims 6, 13.
- Rice. *See* Ex. B2 at Claims 6, 13.
- Sandhu. *See* Ex. B3 at Claims 6, 13.
- Futagami. *See* Ex. B6 at Claims 6, 13.
- Sheha. *See* Ex. B9 at Claims 6, 13.
- Fomukong. *See* Ex. B11 at Claims 6, 13.
- Thomas. *See* Ex. B12 at Claims 6, 13.
- Jhanji. *See* Ex. B14 at Claims 6, 13.
- De Vries. *See* Ex. B16 at Claims 6, 13.
- Tanaka. *See* Ex. B22 at Claims 6, 13.
- Tachikawa. *See* Ex. B23 at Claims 6, 13.
- Degnbol. *See* Ex. B24 at Claims 6, 13.
- SP(C)H-N300. *See* Ex. B27 at Claims 6, 13.
- Benefon Esc! *See* Ex. B28 at Claims 6, 13.
- CellPoint Finder! *See* Ex. B29 at Claims 6, 13.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing relating to modifying/changing access rights for the reasons discussed above in Section II.C.3. In light of the disclosures discussed above in

Section II.C.3, a PHOSITA would be motivated to modify any Primary Reference to include modifying/changing access rights to the extent not already disclosed by the Primary Reference.

7. Obviousness Of First Device Having an Identifier List or Phonebook Comprising Phone Numbers and User Profiles

The ’283 Asserted Claims recite limitations relating to first device having an identifier list or phonebook comprising phone numbers and user profiles. For example, these limitations appear in the following claims:

- Claim Element 1(a): “displaying on a first wireless telephonic device a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices”
- Claim Element 1(b): “receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users”
- Claim Element 8(a): “displaying on a wireless device a first name associated to a first wireless telephonic device and a second name associated to a second wireless telephonic device”
- Claim Element 8(b): “accepting a selection of said first name on said wireless device”
- Claim Element 15(a): “accepting on a first wireless device a manual selection representative of a second wireless device from a list representative of a plurality of wireless devices”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose first device having an identifier list or phonebook comprising phone numbers and user profiles.

- Randall. *See* Ex. B1 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).

- Rice. *See* Ex. B2 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Sandhu. *See* Ex. B3 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Meadows. *See* Ex. B4 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Friedman. *See* Ex. B5 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Futagami. *See* Ex. B6 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Jhanji. *See* Ex. B14 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Bates. *See* Ex. B15 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- De Vries. *See* Ex. B16 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- SP(C)H-N300. *See* Ex. B27 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- Benefon Esc! *See* Ex. B28 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).
- CellPoint Finder! *See* Ex. B29 at Claims 1(a), 1(b), 8(a), 8(b), 15(a).

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing first device having an identifier list or phonebook comprising phone numbers and user profiles for a number of reasons. For example, first device having an identifier list or phonebook comprising phone numbers and user profiles allows wireless devices to include identification information of other mobile users. *See* Rice at [0007]. Establishing a profile with identification information also allows wireless devices to place limitations on "the provision of such location information based on such things as the requesting party, spatial and temporal limitations, as well as granularity." *Id*. at Abstract. A service provider may also use identification information "to either set up a new account in the database or to modify a pre-existing piece of information in the database." Sandhu at [0010].

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include first device having an identifier list or phonebook comprising phone numbers and user profiles to the extent not already disclosed by the Primary Reference.

8. Obviousness Of Providing/Displaying Location of Another Device

The '283 Asserted Claims recite limitations relating to providing/displaying location of another device. For example, these limitations appear in the following claims:

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- Claim Element 1(f): "displaying said location information on said first wireless device"
- Claim Element 8(f): "displaying said location information on said wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying location of another device.

- Rice. *See* Ex. B2 at Claims 1(f), 8(f).
- Sandhu. *See* Ex. B3 at Claims 1(f), 8(f).
- Meadows. *See* Ex. B4 at Claims 1(f), 8(f).
- Friedman. *See* Ex. B5 at Claims 1(f), 8(f).
- Dunko. *See* Ex. B8 at Claims 1(f), 8(f).
- Sheha. *See* Ex. B9 at Claims 1(f), 8(f).
- Enzmann. *See* Ex. B10 at Claims 1(f), 8(f).
- Fomukong. *See* Ex. B11 at Claims 1(f), 8(f).
- Thomas. *See* Ex. B12 at Claims 1(f), 8(f).
- Bates. *See* Ex. B15 at Claims 1(f), 8(f).
- De Vries. *See* Ex. B16 at Claims 1(f), 8(f).
- Ozaki. *See* Ex. B18 at Claims 1(f), 8(f).
- Han. *See* Ex. B19 at Claims 1(f), 8(f).
- Kawamoto. *See* Ex. B20 at Claims 1(f), 8(f).
- Tachikawa. *See* Ex. B23 at Claims 1(f), 8(f).
- Degnbol. *See* Ex. B24 at Claims 1(f), 8(f).
- Marcarelli. *See* Ex. B25 at Claims 1(f), 8(f).
- Okubo. *See* Ex. B26 at Claims 1(f), 8(f).
- Benefon Esc! *See* Ex. B28 at Claims 1(f), 8(f).
- CellPoint Finder! *See* Ex. B29 at Claims 1(f), 8(f).

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing providing and/or displaying the location of another device for a number of reasons. For example, providing and/or displaying the location of another device enables parents to track children for safety purposes, colleagues and friends to track one another for purposes of meeting, and an owner to track the location of their devices for security. De Vries at 6:31-35, 10:61-11:10; *Welcome to CellPoint*, CellPoint (June 25, 2001),

https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm. In addition, providing and/or displaying the location of another device would have been obvious to a PHOSITA because doing so digitally "eliminat[es] having to write down information such as name, address, location map, GPS latitude and longitude encoding, direction and distance to location, hours of operation, or other items of information." Obradovich, 3:13-16.

Moreover, knowing the location of another device further enables the user to determine the distance from the known location and themselves or other landmarks and navigate to the known location. For example, a "[Personal Communication Device] can be plugged into an automobile input port or similar device, if available, and provide distances and directions to locations of interest." Obradovich at 3:17-19, 13:16-18, 1:44-51. Thus, a PHOSITA would have been motivated and found it obvious to combine the teachings of the foregoing references disclosing providing and/or displaying the location of another device for at least the reasons stated above.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include features relating to providing or displaying the location of another device to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the '575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the '283 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim

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language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The ’283 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- Claims 1 and 8 are indefinite if the claimed method steps do not need to be performed in the order that the steps are recited. *See, e.g.*, *Mullen industries LLC v. Apple Inc.*, No. 5:23-cv-437-PCP, Dkt. 41, Apple’s Claim Construction Brief at 11-15, 18-21 (explaining why the steps are otherwise impossible or cannot otherwise be determined with reasonable certainty).

- “receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password” (claim 1)

- “wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login” (claim 1)

- “determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device” (claim 1)

- “said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device” (claim 1)

- “said first wireless device” (claim 1)

- “wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device” (claim 6)

- “said third manual input modifies said location access rights” (claims 6, 13)

- “said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device and determining whether said first wireless telephonic device has provided access rights for said location information for said identified user and said server is located remotely from said wireless device” (claim 8)

- "said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device" (claim 8)

- "wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device" (claim 13)

- "determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login" (claim 15)

- "said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device" (claim 15)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '283 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password" (claim 1)

- "wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login" (claim 1)

- "determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device" (claim 1)

- "said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device" (claim 1)

- "wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device" (claim 6)

- "said third manual input modifies said location access rights" (claims 6, 13)

- "said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device and

determining whether said first wireless telephonic device has provided access rights for said location information for said identified user and said server is located remotely from said wireless device" (claim 8)

- "said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device" (claim 8)
- "wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device" (claim 13)
- "determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login" (claim 15)
- "said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device" (claim 15)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '283 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password" (claim 1)
- "wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login" (claim 1)
- "determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device" (claim 1)
- "said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device" (claim 1)
- "wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device" (claim 6)

- "said third manual input modifies said location access rights" (claims 6, 13)
- "said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device and determining whether said first wireless telephonic device has provided access rights for said location information for said identified user and said server is located remotely from said wireless device" (claim 8)
- "said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device" (claim 8)
- "wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device" (claim 13)
- "determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login" (claim 15)
- "said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device" (claim 15)

E. Obviousness-Type Double Patenting

1. Legal Background Regarding Obviousness-Type Double Patenting

The obviousness-type double patenting doctrine reinforces the legislative limitation of 35 U.S.C. § 101 by prohibiting a party from obtaining an extension of the right to exclude through claims in a challenged patent that are not patentably distinct from claims in another commonly owned patent. To allow a patentee to obtain multiple patents claiming patentably indistinct inventions risks providing the patentee an unjustified timewise extension of the right to exclude as well as possibly subjecting accused infringers to multiple suits by different assignees for patentably-indistinct alleged inventions. *See, e.g., Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1373 (Fed. Cir. 2005) (non-statutory double patenting prevents claims that "would effectively extend the life of patent protection"). "[T]he doctrine of double patenting was primarily designed to prevent such harm by limiting a patentee to one patent term per invention or

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improvement." *Gilead Scis., Inc. v. Natco Pharma Ltd.*, 753 F.3d 1208, 1212 (Fed. Cir. 2014). In particular, it safeguards "the fundamental right of the public to use the invention claimed in the earlier-expiring patent and all obvious modifications of it after that patent's term expires." *Id.* at 1217.

The practice of filing serial continuation applications directed to obvious variations of the same alleged invention is particularly likely to lead to unjustified timewise extensions due to the likelihood that differences between applications in delays before the Patent Office will lead to different PTAs. A terminal disclaimer, if filed for the challenged patent before the expiration of the other patent with patentably-indistinct claims (the reference patent), cures the obviousness-type double patenting defect. But, absent a timely terminal disclaimer, the only remedy is to invalidate the challenged patent claims that are patentably indistinct. *In re: Cellect, LLC*, 81 F.4th 1216, 1229 (Fed. Cir. 2023).

There are two steps in a double patenting analysis. *Abbvie Inc. v. Mathilda & Terence Kennedy Inst. of Rheumatology Trust*, 764 F.3d 1366, 1374 (Fed. Cir. 2014). First, one must determine the differences between the claims in the reference patent (i.e., the patent with the earlier expiration date) and the claims in the challenged patent. *Id.* "Second, the court determines whether those differences render the claims patentably distinct." *Id.* (internal citations and quotations omitted). If the differences do not render the claims patentably distinct, the claims in the challenged patent are invalid for obviousness-type double patenting. *Id.* In determining whether the differences between the claims in a reference patent and the challenged patent are obvious, the court may consider the knowledge of a PHOSITA and the disclosures of other prior art references. *See Hartness Int'l Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1109 (Fed. Cir. 1987) (citing prior art to confirm that earlier expiring claims and later expiring claims were not patentably

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distinct); *In re Longi*, 759 F.2d 887, 895 (Fed. Cir. 1985) (same: "The narrower question in the current case is whether, in the absence of a terminal disclaimer, the Board erred in affirming the examiner's determination that the claimed subject matter is merely an obvious modification of the invention claimed in the commonly-owned applications and the Mayr II patent, in light of the four prior art references.").

2. Invalidity Based On Obviousness-Type Double Patenting

Here, the '283 Patent claims to have an expiration date of July 19, 2025, based on the filing date of the earliest continuation patent in the chain, and a patent term adjustment ("PTA") under 35 U.S.C. § 154(b) of 847 days. No terminal disclaimer for the '283 Patent has been filed. Based on the foregoing and the analysis below, the '283 Asserted Claims are invalid under the doctrine of obviousness-type double patenting, in view of the claims of the '575, '540, '039, '218, '418, '117, and '024 Patents. For example, by way of illustration and not limitation, the '283 Asserted Claims would have been obvious over each of the following sets of claims, alone or in combination with the knowledge of a PHOSITA and/or in combination with the references identified above in Section B:

'283 Asserted Claim	Earlier-Expiring Reference Claims
1	'117 Patent, claim 15
2	'117 Patent, claim 15
6	'117 Patent, claims 15, 17; '024 Patent, claim 25
8	'117 Patent, claim 15
9	'117 Patent, claim 15
13	'117 Patent, claims 15, 17; '024 Patent, claim 25
15	'117 Patent, claims 15, 46, 75
16	'117 Patent, claims 15, 46, 75
17	'117 Patent, claims 15, 46, 75

These identified reference claims are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

IV. '540 PATENT

A. Priority Date

The application for the '540 Patent was filed on March 25, 2003. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the '540 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 ('967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the '967 Provisional are substantially different from the specification of the '540 Patent, as numerous elements of the '540 Patent specification and figures are absent from the '967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the '967 Provisional provide written description for the '540 Asserted Claims.

In view of the substantial differences between the disclosures, the '540 Asserted Claims cannot claim priority to the '967 Provisional. For example, the '967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- "requesting a location of a first wireless device by a second wireless device from a server located remotely from said first and second wireless devices" (claim 1)
- "asking said second wireless device if said location access rights are to be requested from said first wireless device after determining that said second wireless device does not have said location access rights for said first wireless device" (claim 1)
- "requesting that said location access rights be assigned for said second wireless device by said first wireless device" (claim 1)

- "assigning said location access rights on said server to said second wireless device by said first wireless device" (claim 1)
- "storing said location access rights on said server" (claim 1)
- "determining said access rights assigned by said first wireless device to said second wireless device on said server" (claim 1)
- "providing said location from said server to said second wireless device dependent upon said access rights" (claim 1)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '540 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '540 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the '540 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the '540 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen's apparent interpretation of the claims. References that are marked with an asterisk ("*") are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the '540 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are

[redacted]

attached as Exhibits C1 through C27. To the extent Mullen contends that any of these references are not enabling, then the ’540 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
C1*	US 2004/0024846 (Randall)	Great Britain	August 22, 2001	February 5, 2004
C2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
C3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10, 2002
C4*	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
C5*	US 7,013,148 (Ganesh)	United States	December 21, 2001	March 14, 2006
C6*	WO 2001/091486 (Darling)	Great Britain	May 22, 2001	November 29, 2001
C7*	US 6,714,791 (Friedman)	United States	February 23, 2001	August 29, 2002
C8*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
C9*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
C10*	US 6,553,236 (Dunko)	United States	March 28, 2000	April 22, 2003
C11*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
C12*	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
C13*	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
C14*	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
C15*	US 6,944,443 (Bates)	United States	July 11, 2001	January 16, 2003
C16*	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
C17*	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
C18	US 6,415,224 (Wako)	United States	February 6, 2001	July 2, 2002

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
C19	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
C20	US 5,583,776 (Levi)	United States	March 16, 1995	December 10, 1996
C21	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000
C22	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
C23	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
C24 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
C25 *	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
C26	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
C27	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '540 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits C28-C30. The following systems anticipate or render obvious each of the '540 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300* system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-

N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit C28.

a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)
b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)
c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/
f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)
g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
h. Sprint PCS SPH-N300 User Manual, Sprint
i. Samsung SPH-N300 User Manual, Samsung
j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit C29.

a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)

[redacted]

e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit C30.
   a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
   b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
   c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)
   d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
   e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
   f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and

publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section IV.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '540 Patent. See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits C1-C30. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the '540 Asserted Claims. In addition

[redacted]

to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section IV.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’540 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’540 Asserted Claims (hereinafter “Primary References”).

- Randall
- Rice
- Sandhu
- Meadows
- Ganesh
- Darling
- Friedman
- Futagami
- Obradovich
- Dunko
- Sheha
- Enzmann
- Fomukong
- Thomas
- Bates
- De Vries
- Wollrab
- Tanaka
- Tachikawa
- Degnbol
- Benefon Esc!
- CellPoint Finder!

[redacted]

3. Obviousness Of Receiving Login and Password Information

The ’540 Asserted Claims recite limitations relating to receiving login and password information. For example, these limitations appear in the following claims:

- Claim 13: “further comprising receiving a login and password from said second wireless device to identify said second wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving login and password information.

- Randall. *See* Ex. C1 at Claim 13.
- Rice. *See* Ex. C2 at Claim 13.
- Sandhu. *See* Ex. C3 at Claim 13.
- Meadows. *See* Ex. C4 at Claim 13.
- Ganesh. *See* Ex. C5 at Claim 13.
- Darling. *See* Ex. C6 at Claim 13.
- Friedman. *See* Ex. C7 at Claim 13.
- Futagami. *See* Ex. C8 at Claim 13.
- Sheha. *See* Ex. C11 at Claim 13.
- Enzmann. *See* Ex. C12 at Claim 13.
- Thomas. *See* Ex. C14 at Claim 13.
- Tanaka. *See* Ex. C23 at Claim 13.
- Okubo. *See* Ex. C27 at Claim 13.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving login and password information for the reasons discussed above in Section III.C.3. In light of the disclosures discussed above in Section III.C.3, a PHOSITA would be motivated to modify any Primary Reference to include receiving login and password information to the extent not already disclosed by the Primary Reference.

[redacted]

4. Obviousness Of Locating Wireless Phones, Requesting or Transmitting Locations from or to Server/Remote System and then to Other Wireless Phones, and Storing A History of Locations

The ’540 Asserted Claims recite limitations relating to locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations. For example, these limitations appear in the following claims:

- Claim Element 1(a): “requesting a location of a first wireless device by a second wireless device from a server located remotely from said first and second wireless devices”
- Claim 33: “further comprising displaying on said second wireless device the opportunity to request said location access rights from said first wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations.

- Randall. *See* Ex. C1 at Claims 1(a), 33.
- Rice. *See* Ex. C2 at Claims 1(a), 33.
- Sandhu. *See* Ex. C3 at Claims 1(a), 33.
- Meadows. *See* Ex. C4 at Claims 1(a), 33.
- Ganesh. *See* Ex. C5 at Claims 1(a), 33.
- Darling. *See* Ex. C6 at Claims 1(a), 33.
- Obradovich. *See* Ex. C9 at Claims 1(a), 33.
- Dunko. *See* Ex. C10 at Claims 1(a), 33.
- Sheha. *See* Ex. C11 at Claims 1(a), 33.
- Enzmann. *See* Ex. C12 at Claims 1(a), 33.
- Fomukong. *See* Ex. C13 at Claims 1(a), 33.
- Thomas. *See* Ex. C14 at Claims 1(a), 33.
- Bates. *See* Ex. C15 at Claims 1(a), 33.
- De Vries. *See* Ex. C16 at Claims 1(a), 33.
- Wollrab. *See* Ex. C17 at Claims 1(a), 33.
- Tachikawa. *See* Ex. C24 at Claims 1(a), 33.
- Okubo. *See* Ex. C27 at Claims 1(a), 33.

- Benefon Esc! *See* Ex. C29 at Claims 1(a), 33.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations for the reasons discussed above in Section III.C.4. In light of the disclosures discussed above in Section III.C.4, a PHOSITA would be motivated to modify any Primary Reference to include locating wireless phones, requesting or transmitting locations from or to server/remote system and then to other wireless phones, and storing a history of locations to the extent not already disclosed by the Primary Reference.

5. Obviousness Of Determining If the Second Device Has Access Rights/Permission

The ’540 Asserted Claims recite limitations relating to determining if the second device has access rights/permission. For example, these limitations appear in the following claims:

- Claim Element 1(b): “determining that said second wireless device does not have location access rights for said first wireless device;”
- Claim Element 1(g): “determining said access rights assigned by said first wireless device to said second wireless device on said server;”
- Claim Element 1(h): “providing said location from said server to said second wireless device dependent upon said access rights”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose determining if the second device has access rights/permission.

- Randall. *See* Ex. C1 at Claims 1(b), 1(g), 1(h).
- Rice. *See* Ex. C2 at Claims 1(b), 1(g), 1(h).
- Sandhu. *See* Ex. C3 at Claims 1(b), 1(g), 1(h).

- Meadows. *See* Ex. C4 at Claims 1(b), 1(g), 1(h).
- Ganesh. *See* Ex. C5 at Claims 1(b), 1(g), 1(h).
- Darling. *See* Ex. C6 at Claims 1(b), 1(g), 1(h).
- Futagami. *See* Ex. C8 at Claims 1(b), 1(g), 1(h).
- Sheha. *See* Ex. C11 at Claims 1(b), 1(g), 1(h).
- Enzmann. *See* Ex. C12 at Claims 1(b), 1(g), 1(h).
- Fomukong. *See* Ex. C13 at Claims 1(b), 1(g), 1(h).
- Thomas. *See* Ex. C14 at Claims 1(b), 1(g), 1(h).
- Tanaka. *See* Ex. C23 at Claims 1(b), 1(g), 1(h).
- Tachikawa. *See* Ex. C24 at Claims 1(b), 1(g), 1(h).
- Benefon Esc! *See* Ex. C29 at Claims 1(b), 1(g), 1(h).
- CellPoint Finder! *See* Ex. C30 at Claims 1(b), 1(g), 1(h).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing determining if the second device has access rights/permission for the reasons discussed above in Section III.C.5. In light of the disclosures discussed above in Section III.C.5, a PHOSITA would be motivated to modify any Primary Reference to include determining if the second device has access rights/permission to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Making A Second Request for Location Access Rights If No Access Rights Were Determined

The ’540 Asserted Claims recite limitations relating to making a second request for location access rights if no access rights were determined. For example, these limitations appear in the following claims:

- Claim Element 1(c): “asking said second wireless device if said location access rights are to be requested from said first wireless device after determining that said second wireless device does not have said location access rights for said first wireless device”
- Claim Element 1(d): “requesting that said location access rights be assigned for said second wireless device by said first wireless device;”

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose making a second request for location access rights if no access rights were determined.

- Rice. *See* Ex. C2 at Claims 1(c), 1(d).
- Darling. *See* Ex. C6 at Claims 1(c), 1(d).
- Futagami. *See* Ex. C8 at Claims 1(c), 1(d).
- Fomukong. *See* Ex. C13 at Claims 1(c), 1(d).

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing making a second request for location access rights if no access rights were determined for a number of reasons. A PHOSITA would have understood and have been motivated to allow a first device to have security features that allow the user of the second device another opportunity to gain access to their location after access is denied. For example, if a retrieval request is made by a second wireless device to retrieve the personal information of a first device and access is denied, a refusal message may be displayed to the user of the second device. *See* Futagami at 15:41-53. If the user still wants to access the personal information, the user can transmit a restriction removal request, so the user is allowed to access the location information after a denial. *Id*. at 15:54-62. Similarly, if a communication source does not have access to obtain a subscriber's location, "the source may poll for the location of a remote unit by including specific information which when received by the remote receiving unit will reveal the identity of the source and a request for the location of the remote unit." Fomukong, at 5:36-43. The remote unit will "either accept or decline to this request by transmitting specific information back to the paging network which will reveal or block the location to the caller." *Id*. at 42-45.

[redacted]

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include making a second request for location access rights if no access rights were determined to the extent not already disclosed by the Primary Reference.

7. Obviousness Of Access Rights Including A Plurality of Levels

The '540 Asserted Claims recite limitations relating to access rights including a plurality of levels. For example, these limitations appear in the following claims:

- Claim 4: "wherein said location access rights comprise a plurality of access levels"
- Claim 17: "further comprising filtering information about said location such that only a portion of the information is passed to said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose access rights including a plurality of levels.

- Rice. *See* Ex. C2 at Claims 4, 17.
- Friedman. *See* Ex. C7 at Claims 4, 17.
- De Vries. *See* Ex. C17 at Claims 4, 17.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing access rights including a plurality of levels for a number of reasons. A PHOSITA would have understood and have been motivated to include access rights including a plurality of levels so that "the location information may [] be provided in a manner defined by the privacy preferences established for the particular client application." *See* Rice, [0008]. For example, privacy preferences may include "limited access to a particular type of entity making the request, access only granted to request of a particular granularity, and access only granted when the wireless communications device is within a particular geographic region." *Id*. Other privacy preferences may include allowing the user to specify the types of positional data

that users should receive. *See* Friedman at 13:3-5. For example, some users may receive a precise location while others may only receive a measurement of distance. *Id*. at 13:5-9.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include access rights including a plurality of levels to the extent not already disclosed by the Primary Reference.

8. Obviousness Of Modifying/Changing Access Rights

The '540 Asserted Claims recite limitations relating to modifying/changing access rights. For example, these limitations appear in the following claims:

- Claim Element 1(e): "assigning said location access rights on said server to said second wireless device by said first wireless device"
- Claim Element 1(f): "storing said location access rights on said server"
- Claim 15: "further comprising using said first wireless device to modify said location access rights for said second wireless device"
- Claim 16: "further comprising the ability to use said first wireless device to delete said location access rights for said second wireless device"
- Claim 35: "wherein one of said location access rights is the ability to not allow said second wireless device to access said location"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose modifying/changing access rights.

- Randall. *See* Ex. C1 at Claims 1(e), 1(f), 15, 16, 35.
- Rice. *See* Ex. C2 at Claims 1(e), 1(f), 15, 16, 35.
- Sandhu. *See* Ex. C3 at Claims 1(e), 1(f), 15, 16, 35.
- Futagami. *See* Ex. C8 at Claims 1(e), 1(f), 15, 16, 35.
- Sheha. *See* Ex. C11 at Claims 1(e), 1(f), 15, 16, 35.
- Fomukong. *See* Ex. C13 at Claims 1(e), 1(f), 15, 16, 35.

- Thomas. *See* Ex. C14 at Claims 1(e), 1(f), 15, 16, 35.
- De Vries. *See* Ex. C16 at Claims 1(e), 1(f), 15, 16, 35.
- Tanaka. *See* Ex. C23 at Claims 1(e), 1(f), 15, 16, 35.
- Tachikawa. *See* Ex. C24 at Claims 1(e), 1(f), 15, 16, 35.
- Degnbol. *See* Ex. C25 at Claims 1(e), 1(f), 15, 16, 35.
- SP(C)H-N300. *See* Ex. C28 at Claims 1(e), 1(f), 15, 16, 35.
- Benefon Esc! *See* Ex. C29 at Claims 1(e), 1(f), 15, 16, 35.
- CellPoint Finder! *See* Ex. C30 at Claims 1(e), 1(f), 15, 16, 35.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing modifying/changing access rights for the reasons discussed above in Section II.C.3. In light of the disclosures discussed above in Section II.C.3, a PHOSITA would be motivated to modify any Primary Reference to include modifying/changing access rights to the extent not already disclosed by the Primary Reference.

9. Obviousness Of Displaying A Compass

The ’540 Asserted Claims recite limitations relating to displaying a compass. For example, these limitations appear in the following claims:

- Claim 25: “further comprising providing a compass in said second wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose displaying a compass.

- Wako. *See* Ex. C18 at Claim 25.
- Levi. *See* Ex. C20 at Claim 25.
- Kawamoto. *See* Ex. C21 at Claim 25.
- Tachikawa. *See* Ex. C24 at Claim 25.
- Benefon Esc! *See* Ex. C29 at Claim 25.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing displaying a compass for a number of reasons. A PHOSITA would have been motivated to include a compass in a wireless device so the user can know what direction he or she is facing while looking at directional information such as if the user

is facing "the north N. south S, east E and west W." Tachikawa at 8:54. A compass may be included to detect the direction of the mobile device. Kawamoto at 8:26-29. A compass may also be included to determine location of the user. Levi at 1:37-39.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include displaying a compass to the extent not already disclosed by the Primary Reference.

10. Obviousness Of Limiting Location Access Rights to a Specific Period of Time

The '540 Asserted Claims recite limitations relating to limiting location access rights to a specific period of time. For example, these limitations appear in the following claims:

- Claim 29: "wherein said location access rights are only assigned for a period of time"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose limiting location access rights to a specific period of time.

- Randall. *See* Ex. C1 at Claim 29.
- Rice. *See* Ex. C2 at Claim 25.
- De Vries. *See* Ex. C16 at Claim 25.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing limiting location access rights to a specific period of time for a number of reasons.

A PHOSITA would have understood and have been motivated to limit location access to a specific period of time so the user can control who has access to their location information on an ad hoc basis. *See* Randall, [0143]. For example, location information may be available "for a pre-defined period of time." *Id*., [0144]. The period of time should also be "easily extensible by the

[redacted]

user." *Id*. "At the end of the pre-defined period the location information should again become" accessible to user who is trying to access location information. *Id*. Further, a temporal permission may be set that "identifies the time of day/day of week a particular authorized client may access the location information." Rice at [0050].

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include limiting location access rights to a specific period of time to the extent not already disclosed by the Primary Reference.

11. Obviousness Of Location Access Rights Is Provided to the Second Device Even When the First Device Is Off

The '540 Asserted Claims recite limitations relating to location access rights is provided to the second device even when the first device is off. For example, these limitations appear in the following claims:

- Claim 3: "wherein said location access rights include the ability to obtain said location, wherein said location is provided to said second wireless device from said server even when said first wireless device is OFF"
- Claim 32: "wherein said server stores a history of locations for said first wireless device and said history is utilized to provide an approximate location of said first wireless device when said first wireless device is turned OFF"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose location access rights is provided to the second device even when the first device is off.

- Darling. *See* Ex. C6 at Claims 3, 32.
- Ryden. *See* Ex. C22 at Claims 3, 32.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing location access rights is provided to the second device even when the first device is off for a number of reasons. A PHOSITA would have been motivated to do so because this allows "a user to determine the location of another user without specifically having to contact that other user." Darling at 2:10-11. For example, "even when that other user is not online or when their mobile telephone or other device is switched off" the user may be able to determine the location of another user. *Id*. at 2:10-12.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include location access rights is provided to the second device even when the first device is off to the extent not already disclosed by the Primary Reference.

12. Obviousness Of First Device Having An Identifier List or Phonebook Comprising Phone Numbers and User Profiles

The '540 Asserted Claims recite limitations relating to first device having an identifier list or phonebook comprising phone numbers and user profiles. For example, these limitations appear in the following claims:

- Claim 14: "wherein said location of said first wireless device is requested by receiving input, in the form of a telephone number of said first wireless device, on said second wireless device"
- Claim 19: "further comprising selecting said first wireless device from an identifier list"
- Claim 20: "further comprising selecting said first wireless device from an identifier list wherein said identifier list comprises a list of telephone numbers"
- Claim 21: "further comprising selecting said first wireless device from an identifier list wherein said identifier list comprises a list of user profiles"

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose first device having an identifier list or phonebook comprising phone numbers and user profiles.

- Randall. *See* Ex. C1 at Claims 14, 19, 20, 21.
- Rice. *See* Ex. C2 at Claims 14, 19, 20, 21.
- Sandhu. *See* Ex. C3 at Claims 14, 19, 20, 21.
- Meadows. *See* Ex. C4 at Claims 14, 19, 20, 21.
- Ganesh. *See* Ex. C5 at Claims 14, 19, 20, 21.
- Darling. *See* Ex. C6 at Claims 14, 19, 20, 21.
- Friedman. *See* Ex. C7 at Claims 14, 19, 20, 21.
- Futagami. *See* Ex. C8 at Claims 14, 19, 20, 21.
- Bates. *See* Ex. C15 at Claims 14, 19, 20, 21.
- De Vries. *See* Ex. C16 at Claims 14, 19, 20, 21.
- Wako. *See* Ex. C18 at Claims 14, 19, 20, 21.
- SP(C)H-N300. *See* Ex. C28 at Claims 14, 19, 20, 21.
- Benefon Esc! *See* Ex. C29 at Claims 14, 19, 20, 21.
- CellPoint Finder! *See* Ex. C30 at Claims 14, 19, 20, 21.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing first device having an identifier list or phonebook comprising phone numbers and user profiles for the reasons discussed above in Section III.C.7. In light of the disclosures discussed above in Section III.C.7, a PHOSITA would be motivated to modify any Primary Reference to include first device having an identifier list or phonebook comprising phone numbers and user profiles to the extent not already disclosed by the Primary Reference.

13. Obviousness Of Providing/Displaying Directions, Distance, or Time to Travel

The ’540 Asserted Claims recite limitations relating to providing/displaying directions, distance, or time to travel. For example, these limitations appear in the following claims:

- Claim 6: “wherein said location is used to provide directions from said second wireless device to said location on said second wireless device”

- Claim 7: "wherein said location is used to provide directions from said second wireless device to said location and a travel time on said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying directions, distance, or time to travel.

- Rice. *See* Ex. C2 at Claims 6, 7.
- Meadows. *See* Ex. C4 at Claims 6, 7.
- Ganesh. *See* Ex. C5 at Claims 6, 7.
- Obradovich. *See* Ex. C9 at Claims 6, 7.
- Sheha. *See* Ex. C11 at Claims 6, 7.
- Wako. *See* Ex. C18 at Claims 6, 7.
- Ozaki. *See* Ex. C19 at Claims 6, 7.
- Ryden. *See* Ex. C22 at Claims 6, 7.
- Tachikawa. *See* Ex. C24 at Claims 6, 7.
- Degnbol. *See* Ex. C25 at Claims 6, 7.
- Benefon Esc! *See* Ex. C29 at Claims 6, 7.
- CellPoint Finder! *See* Ex. C30 at Claims 6, 7.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing providing/displaying directions, distance, or time to travel for the reasons discussed above in Section II.C.4. In light of the disclosures discussed above in Section II.C.4, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying directions, distance, or time to travel to the extent not already disclosed by the Primary Reference.

14. Obviousness Of Displaying A User-Selected Object, Indicia, or Landmark on A Map

The '540 Asserted Claims recite limitations relating to displaying a user-selected object, indicia, or landmark on a map. For example, these limitations appear in the following claims:

- Claim 5: "wherein said location is used to provide a location marker on a map on said second wireless device"

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose displaying a user-selected object, indicia, or landmark on a map.

- Ganesh. *See* Ex. C5 at Claim 5.
- Obradovich. *See* Ex. C9 at Claim 5.
- Sheha. *See* Ex. C11 at Claim 5.
- Enzmann. *See* Ex. C12 at Claim 5.
- Tachikawa. *See* Ex. C24 at Claim 5.
- Marcarelli. *See* Ex. C26 at Claim 5.
- Okubo. *See* Ex. C27 at Claim 5.
- Benefon Esc! *See* Ex. C29 at Claim 5.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing displaying a user-selected object, indicia, or landmark on a map for a number of reasons. By the early 2000s, it was conventional for GPS tracking systems to display maps with points of interest, identified destinations, and other devices on a map with "indicia," such as a dot, star, image, or other icon. A PHOSITA would have found it obvious to use such a display to show selected objects, indicia, or landmarks so that a user could orient themselves to such icon, determine a relative position to such icon, or even navigate to that icon or use that icon as a reference for navigating elsewhere. For example, Tachikawa provides "visual images 801, 802, and 803 … indicative of a factory, a shrine and a station. If another landmark and/or huge buildings are near the owner user, visual images of the buildings are produced within the concentric circles 400." Tachikawa at 20:39-52, Fig. 8. "In this instance, the factory is the north-northeast of the owner user 504, the shrine 802 is the southeast of the owner user 504, and the station is southwest of the owner user 504." *Id.*

Moreover, PHOSITAs would have found it obvious to show the position of other users on a similar digital map. For example, Okubo's Figure 3 "is a schematic diagram showing a display example of the mobile terminal at the time of searching for another group member while

the position information function is being activated. The mark 14 shows the position of oneself, and the marks 15 and 16 show the positions of other group members." Okubo at [0018], Fig. 3. Accordingly, it would have been obvious to use such a display to select friends or colleagues that a user wanted to locate and identify their position on a map.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include displaying a user-selected object, indicia, or landmark on a map to the extent not already disclosed by the Primary Reference.

15. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Location of Another Device

The '540 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on location of another device. For example, these limitations appear in the following claims:

- Claim 28: "further comprising setting location alerts associated with said first wireless device on said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on location of another device.

- Rice. *See* Ex. C2 at Claim 28.
- Sandhu. *See* Ex. C3 at Claim 28.
- Friedman. *See* Ex. C7 at Claim 28.
- Dunko. *See* Ex. C10 at Claim 28.
- Thomas. *See* Ex. C14 at Claim 28.
- Bates. *See* Ex. C15 at Claim 28.
- De Vries. *See* Ex. C16 at Claim 28.
- Wollrab. *See* Ex. C17 at Claim 28.
- Degnbol. *See* Ex. C25 at Claim 28.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing transmitting/receiving location-based event

[redacted]

notifications based on location of another device for a number of reasons. Because location technology was well-known and able to determine the proximity and exact location of other users, a PHOSITA would have found it obvious to incorporate alarms or alerts based on the location of other users. Such "situational alarms may be generated in the event certain user defined criteria are met, such as two remote members of [an] affinity group being in close proximity to one another." Dunko at Abstract. "Some individuals may wish to know when two particular members of the affinity group are at the mall. Others may want to know when any two members of the affinity group are within a city block of one another." *Id.* at 11:13-17. And "[o]thers may want to know when any affinity group member is approaching the present location of the programmer." *Id.* at 11:17-19. "These alarms may be programmed for the purpose of facilitating a meeting, avoiding a meeting, determining when would be a good time to drop an item off, have a study session, and the like." *Id.* at 11:22-25.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on location of another device to the extent not already disclosed by the Primary Reference.

16. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Distance

The '540 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on distance. For example, these limitations appear in the following claims:

- Claim 18: "further comprising alerting said second wireless device when said first wireless device is within a distance of second wireless device"

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on distance.

- Sandhu. *See* Ex. C3 at Claim 18.
- Friedman. *See* Ex. C7 at Claim 18.
- Dunko. *See* Ex. C10 at Claim 18.
- Bates. *See* Ex. C15 at Claim 18.
- De Vries. *See* Ex. C16 at Claim 18.
- Wollrab. *See* Ex. C17 at Claim 18.
- Degnbol. *See* Ex. C25 at Claim 18.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on distance for a number of reasons. Because location technology was well-known and able to determine the distance between devices and between devices and set locations, a PHOSITA would have found it obvious to incorporate alarms or alerts based on the exact location of other users. It was well-known in the art that a user could "defin[e] a home or other default location by its geocoordinates and, when the location detector 64 returns sensed geocoordinates within a predetermined distance of these predefined geocoordinates, the mobile terminal 20 reports that the mobile terminal 20 is at the default location." Dunko at 7:28-33. In fact, a PHOSITA would have understood that "members of [an] affinity group [were] able to create location place-name descriptions such that commonly visited places have a name or common appellation attached thereto. When the location detector senses that the mobile terminal is within a predefined distance of a location associated with a location place-name description, the mobile terminal assumes that the member is within the confines of that location." Dunko at 2:19-26. Rather than providing "raw geocoordinates such as returned by a GPS receiver," providing an alert based on the set location "facilitates comprehension by the inquiring member as to the actual location of the remote

member, whereas longitude and latitude measurements corresponding to the raw geocoordinates would perhaps not be particularly insightful." *Id.* at 2:26-34.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on distance to the extent not already disclosed by the Primary Reference.

17. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Region

The '540 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on region. For example, these limitations appear in the following claims:

- Claim 30: "further comprising alerting said second wireless device when said first wireless device enters a geographic area"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on region.

- Rice. *See* Ex. C2 at Claim 30.
- Sandhu. *See* Ex. C3 at Claim 30.
- Dunko. *See* Ex. C10 at Claim 30.
- Thomas. *See* Ex. C14 at Claim 30.
- Bates. *See* Ex. C15 at Claim 30.
- De Vries. *See* Ex. C16 at Claim 30.
- Wollrab. *See* Ex. C17 at Claim 30.
- Degnbol. *See* Ex. C25 at Claim 30.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on region for a number of reasons. Because location technology was well-known and able to determine when devices were within a defined region or proximity, a PHOSITA

would have found it obvious to incorporate alarms or alerts based on the location of other users in a defined region. In fact, it was well-known in the art that parameters based on region or proximity allow a user to identify people, places, and resources that are within a defined vicinity, "such as same city/town/neighborhood, same venue, same building, same room, and the like." De Vries at 9:8-14. For example, some individuals may want to know when a friend or colleague enters the city, "when any two members of the affinity group are within a city block of one another," or "when Jill and Susie have both reached the vicinity of the mall." Dunko at 11:15-21.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on region to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the '575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the '540 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The '540 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when

[redacted]

reading the claims in light of the specification and prosecution history.

- Claim 1 is indefinite if the claimed method steps do not need to be performed in the order that the steps are recited. *See, e.g.*, *Mullen industries LLC v. Apple Inc.*, No. 5:23-cv-437-PCP, Dkt. 41, Apple's Claim Construction Brief at 21-23 (explaining why the steps are otherwise impossible or cannot otherwise be determined with reasonable certainty).

- "dependent upon said access rights" (claim 1)

- "said location of said first wireless devices is requested by receiving input, in the form of a telephone number of said first wireless device, on said second wireless device" (claim 14)

- "The method of claim 1, further comprising the ability to use said first wireless device" (claim 16)

- "a directional arrow is utilized to display the location of said first wireless device relative to said location of said second wireless device on said second wireless device" (claim 26)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '540 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "determining that said second wireless device does not have location access rights for said first wireless device" (claim 1)

- "said location access rights be assigned for said second wireless device" (claim 1)

- "assigning said location access rights on said server" (claim 1)

- "determining said access rights assigned by said first wireless device to said second wireless device on said server" (claim 1)

- "said location us used to provide directions from said second wireless device to said location on said second wireless device" (claim 6)

- "said location of said first wireless devices is requested by receiving input, in the form of a telephone number of said first wireless device, on said second wireless device" (claim 14)

[redacted]

- "a directional arrow is utilized to display the location of said first wireless device relative to said location of said second wireless device on said second wireless device" (claim 26)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '540 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "determining that said second wireless device does not have location access rights for said first wireless device" (claim 1)
- "said location access rights be assigned for said second wireless device" (claim 1)
- "assigning said location access rights on said server" (claim 1)
- "determining said access rights assigned by said first wireless device to said second wireless device on said server" (claim 1)
- "said location us used to provide directions from said second wireless device to said location on said second wireless device" (claim 6)
- "said location of said first wireless devices is requested by receiving input, in the form of a telephone number of said first wireless device, on said second wireless device" (claim 14)
- "a directional arrow is utilized to display the location of said first wireless device relative to said location of said second wireless device on said second wireless device" (claim 26)

V. '039 PATENT

A. Priority Date

The application for the '039 Patent was filed on August 20, 2007. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the '039 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 ('967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the '967 Provisional are substantially different

[redacted]

from the specification of the ’039 Patent, as numerous elements of the ’039 Patent specification and figures are absent from the ’967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the ’967 Provisional provide written description for the ’039 Asserted Claims.

In view of the substantial differences between the disclosures, the ’039 Asserted Claims cannot claim priority to the ’967 Provisional. For example, the ’967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- “a remote system, wherein user information is operable to be identified from a plurality of different user information by receiving at least a manually entered login from a first wireless device associated with said user information and a manually entered password associated with said login” (claim 1)
- “a location of said first wireless device is operable to be recorded on said remote system after said user information has been identified on said first wireless device and said location is associated with said user information and provided by said first wireless device to said remove server” (claim 1)
- “a location-based event is operable to be provided based, at least in part, on said location of said first wireless device, wherein said located-based event is operable to be manually pre-selected from a list of at least three types of location-based events on a device” (claim 1)
- “a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device, wherein a first one of said at least three types of location-based events is, at

least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based" (claim 1)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '039 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '039 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the '039 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the '039 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen's apparent interpretation of the claims. References that are marked with an asterisk ("*") are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the '039 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits D1 through D23. To the extent Mullen contends that any of these references are not enabling, then the '039 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
D1*	US 2004/0024846 (Randall)	Great Britain	August 22, 2001	February 5, 2004
D2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
D3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10,

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
				2002
D4*	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
D5*	US 6,714,791 (Friedman)	United States	February 23, 2001	August 29, 2002
D6*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
D7*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
D8*	US 6,553,236 (Dunko)	United States	March 28, 2000	April 22, 2003
D9*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
D10 *	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
D11 *	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
D12	US 2002/0069312 (Jones)	United States	July 3, 2001	June 6, 2002
D13 *	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
D14 *	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
D15	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001
D16	US 5,583,776 (Levi)	United States	March 16, 1995	December 10, 1996
D17	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000
D18	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
D19 *	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
D20	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
D21 *	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
D22	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
D23	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11,

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
				2002

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '039 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits D24-D26. The following systems anticipate or render obvious each of the '039 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300* system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit D24.
    a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)
    b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)
    c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
    d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
    e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/
    f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)

[redacted]

g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
h. Sprint PCS SPH-N300 User Manual, Sprint
i. Samsung SPH-N300 User Manual, Samsung
j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit D25.
    a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
    b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
    c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
    d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
    e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
    f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
    g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
    h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
    i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later

than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit D26.

a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)
d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section V.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '039 Patent.

See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits D1-D26. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the ’039 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section V.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’039 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’039 Asserted Claims (hereinafter “Primary References”).

[redacted]

- Randall
- Rice
- Sandhu
- Meadows
- Friedman
- Futagami
- Obradovich
- Dunko
- Sheha
- Enzmann
- Thomas
- De Vries
- Wollrab
- Tanaka
- Degnbol
- SP(C)H-N300
- Benefon Esc!
- CellPoint Finder!

3. Obviousness Of Receiving Login and Password Information

The ’039 Asserted Claims recite limitations relating to receiving login and password information. For example, these limitations appear in the following claims:

- Claim Element 1(a): “a remote system, wherein user information is operable to be identified from a plurality of different user information by receiving at least a manually entered login from a first wireless device associated with said user information and a manually entered password associated with said login”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving login and password information.

- Randall. *See* Ex. D1 at Claim 1(a).
- Rice. *See* Ex. D2 at Claim 1(a).
- Sandhu. *See* Ex. D3 at Claim 1(a).
- Meadows. *See* Ex. D4 at Claim 1(a).
- Friedman. *See* Ex. D5 at Claim 1(a).
- Futagami. *See* Ex. D6 at Claim 1(a).

- Sheha. *See* Ex. D9 at Claim 1(a).
- Enzmann. *See* Ex. D10 at Claim 1(a).
- Thomas. *See* Ex. D11 at Claim 1(a).
- Han. *See* Ex. D15 at Claim 1(a).
- Tanaka. *See* Ex. D19 at Claim 1(a).
- Okubo. *See* Ex. D23 at Claim 1(a).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving login and password information for the reasons discussed above in Section III.C.3. In light of the disclosures discussed above in Section III.C.3, a PHOSITA would be motivated to modify any Primary Reference to include receiving login and password information to the extent not already disclosed by the Primary Reference.

4. Obviousness Of First Device Having an Identifier List or Phonebook Comprising Phone Numbers and User Profiles

The ’039 Asserted Claims recite limitations relating to first device having an identifier list or phonebook comprising phone numbers and user profiles. For example, these limitations appear in the following claims:

- Claim 7: “wherein a display screen is provided on said first wireless device after said identifying of said user information on said first wireless device that includes a first selectable option for providing a first map associated with said location and a second selectable option for providing a second map associated with a third location of a third user information”
- Claim 8: “wherein said first wireless device is operable after said identifying of said user information on said first wireless device to provide a first map associated with said location and a second map associated with a third location of a third user information”

[redacted]

- Claim 9: "wherein said first wireless device is operable after said identifying of said user information on said first wireless device to provide a travel time between said location associated with said first user information and a third location associated with a third user information"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose first device having an identifier list or phonebook comprising phone numbers and user profiles.

- Randall. *See* Ex. D1 at Claims 7, 8, 9.
- Rice. *See* Ex. D2 at Claims 7, 8, 9.
- Sandhu. *See* Ex. D3 at Claims 7, 8, 9.
- Meadows. *See* Ex. D4 at Claims 7, 8, 9.
- Friedman. *See* Ex. D5 at Claims 7, 8, 9.
- Futagami. *See* Ex. D6 at Claims 7, 8, 9.
- De Vries. *See* Ex. D13 at Claims 7, 8, 9.
- SP(C)H-N300. *See* Ex. D24 at Claims 7, 8, 9.
- Benefon Esc! *See* Ex. D25 at Claims 7, 8, 9.
- CellPoint Finder! *See* Ex. D26 at Claims 7, 8, 9.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing first device having an identifier list or phonebook comprising phone numbers and user profiles for the reasons discussed above in Section III.C.7. In light of the disclosures discussed above in Section III.C.7, a PHOSITA would be motivated to modify any Primary Reference to include first device having an identifier list or phonebook comprising phone numbers and user profiles to the extent not already disclosed by the Primary Reference.

[redacted]

5. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Location of Another Device

The ’039 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on location of another device. For example, these limitations appear in the following claims:

- Claim 1(c): “a location-based event is operable to be provided based, at least in part, on said location of said first wireless device”
- Claim Element 1(d): “wherein said located-based event is operable to be manually pre-selected from a list of at least three types of location-based events on a device”
- Claim Element 1(e): “a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device”
- Claim Element 1(f): “wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on location of another device.

- Rice. *See* Ex. D2 at Claims 1(c), 1(d), 1(e), 1(f).
- Sandhu. *See* Ex. D3 at Claims 1(c), 1(d), 1(e), 1(f).
- Friedman. *See* Ex. D5 at Claims 1(c), 1(d), 1(e), 1(f).
- Dunko. *See* Ex. D8 at Claims 1(c), 1(d), 1(e), 1(f).
- Thomas. *See* Ex. D11 at Claims 1(c), 1(d), 1(e), 1(f).
- De Vries. *See* Ex. D13 at Claims 1(c), 1(d), 1(e), 1(f).
- Wollrab. *See* Ex. D14 at Claims 1(c), 1(d), 1(e), 1(f).
- Degnbol. *See* Ex. D21 at Claims 1(c), 1(d), 1(e), 1(f).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications for the reasons discussed above in Section IV.C.15. In light of the disclosures discussed above in Section IV.C.15, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Distance

The '039 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on distance. For example, these limitations appear in the following claims:

- Claim Element 1(f): "wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on distance.

- Sandhu. *See* Ex. D3 at Claim 1(f).
- Friedman. *See* Ex. D5 at Claim 1(f).
- Dunko. *See* Ex. D8 at Claim 1(f).
- De Vries. *See* Ex. D13 at Claim 1(f).
- Wollrab. *See* Ex. D14 at Claim 1(f).
- Degnbol. *See* Ex. D21 at Claim 1(f).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on distance for the reasons discussed above in Section IV.C.16. In light of the

[redacted]

disclosures discussed above in Section IV.C.16, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on distance to the extent not already disclosed by the Primary Reference.

7. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Region

The '039 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on region. For example, these limitations appear in the following claims:

- Claim Element 1(f): "wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on region.

- Rice. *See* Ex. D2 at Claim 1(f).
- Sandhu. *See* Ex. D3 at Claim 1(f).
- Dunko. *See* Ex. D8 at Claim 1(f).
- Thomas. *See* Ex. D11 at Claim 1(f).
- De Vries. *See* Ex. D13 at Claim 1(f).
- Wollrab. *See* Ex. D14 at Claim 1(f).
- Degnbol. *See* Ex. D21 at Claim 1(f).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on region for the reasons discussed above in Section IV.C.17. In light of the disclosures discussed above in Section IV.C.17, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on region to the extent not already disclosed by the Primary Reference.

[redacted]

8. Obviousness Of Location-Based Event Notifications Dependent on Location Access Rights

The ’039 Asserted Claims recite limitations relating to location-based event notifications dependent on location access rights. For example, these limitations appear in the following claims:

- Claim Element 1(e): “a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose location-based event notifications dependent on location access rights.

- Dunko. *See* Ex. D8 at Claim 1(e).
- Thomas. *See* Ex. D11 at Claim 1(e).
- De Vries. *See* Ex. D13 at Claim 1(e).
- Degnbol. *See* Ex. D21 at Claim 1(e).

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing location-based event notifications dependent on location access rights for a number of reasons. Because location technology was well-known and able to determine the proximity and exact location of other users, a PHOSITA would have found it obvious to incorporate alarms or alerts based on the location of other users but would restrict such access to those granted location access rights. A PHOSITA would have recognized that a user’s location is sensitive information and the user may wish to provide different individuals varying levels of access. In fact, the prior art “supports that different people have different proximity thresholds. This applies both the degree to which a user discloses their location to others, and the relevance of another’s location relative to the user.” De Vries at 9:19-22. For example, “a user may provide very accurate information to trusted individuals (e.g. location to 10

meter resolution to family members) and less accurate data to others (e.g. simply the city where one is located to a co-worker)." *Id.* at 9:23-26. Accordingly, a PHOSITA would have found it obvious to allow a user to set a "proximity threshold" within which a device of another user can be provided with a location-based event notification based on assigned levels of access.

Similarly, given the sensitive nature of location information, a PHOSITA would have found it obvious to control whether notifications are even sent to certain users or groups of users. A user could configure "visibility parameters, which control when a person's location is available to be included in search response or notifications." *Id.* at 9:32-34. "The person would set the visibility parameters to be either visible or not visible to a particular user or group of users. For example, the person B in FIGS. 4 and 5 could select to be not visible to the user (person A) even though they would be sufficiently nearby for the person B to otherwise be included in the user's search responses or notifications." *Id.* at 9:34-40. "Further, by setting the visibility parameter for different groups of people, the person could elect to have the information service inform some groups of his or her contacts about his or her proximity, while not informing others (e.g., visible to co-workers and clients, but not visible to friends)." *Id.* at 9:40-45.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include location-based event notifications dependent on location access rights to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the '575 Patent as if fully set forth herein. *See* Section II.D.1.

[redacted]

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the '039 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The '039 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- Claim 1 is indefinite as a mixed method and apparatus claim.
- Claim 1 is indefinite as claiming a remote system with steps performed on a first wireless device that is not remote.
- "remote system" (claim 1)
- "said remove server" (claim 1)
- "said located-based event" (claim 1)
- "at least in part, region-based" (claim 1)
- "at least in part, distance-based" (claim 1)
- "a location of said first wireless device is operable to be recorded on said remote system" (claim 1)
- "a location-based event is operable to be provided based, at least in part, on said location" (claim 1)
- "a location-based event is operable to be provided based, at least in part, on said location of said first wireless device" (claim 1)
- "said located-based event is operable to be manually pre-selected from a list of at least three types of location-based events on a device" (claim 1)

- "a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device" (claim 1)

- "wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based" (claim 1)

- "A system comprising: a remote system, wherein user information is operable to be identified from a plurality of different user information by receiving at least a manually entered login from a first wireless device associated with said user information and a manually entered password associated with said login … a location-based event is operable to be provided based, at least in part, on said location of said first wireless device, wherein said located-based event is operable to be manually pre-selected from a list of at least three types of location-based events on a device, a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device, . . ." (claim 1)

- "third location of a third user information" (claims 7, 8)

- "a second map" (claim 8)

- "said first wireless device is operable after said identifying of said user information on said first wireless device to provide . . ." (claims 8, 9)

- "third location associated with a third user information" (claim 9)

- "said firs user information" (claim 9)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '039 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- Claim 1 is not enabled as claiming a remote system with steps performed on a first wireless device that is not remote.

- "receiving at least a manually entered login from a first wireless device associated with said user information and a manually entered password associated with said login" (claim 1)

- "a location of said first wireless device is operable to be recorded on said remote system" (claim 1)

[redacted]

- "a location-based event is operable to be provided based, at least in part, on said location" (claim 1)
- "a location-based event is operable to be provided based, at least in part, on said location of said first wireless device" (claim 1)
- "said located-based event is operable to be manually pre-selected from a list of at least three types of location-based events on a device" (claim 1)
- "a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device" (claim 1)
- "wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based" (claim 1)
- "said first wireless device includes a first global positioning system that is operable to provide said location and a second device is provided that includes a second global positioning system that is operable to provide a second location, wherein said second location is stored on said remote system" (claim 4)
- "wherein a display screen is provided on said first wireless device after said identifying of said user information on said first wireless device that includes a first selectable option for providing a first map associated with said location and a second selectable option for providing a second map associated with a third location of a third user information" (claim 7)
- "wherein said first wireless device is operable after said identifying of said user information on said first wireless device to provide a first map associated with said location and a second map associated with a third location of a third user information" (claim 8)
- "wherein said first wireless device is operable after said identifying of said user information on said first wireless device to provide a travel time between said location associated with said first user information and a third location associated with a third user information" (claim 9)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '039 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- Claim 1 lacks written description as claiming a remote system with steps performed on a first wireless device that is not remote.

- "receiving at least a manually entered login from a first wireless device associated with said user information and a manually entered password associated with said login" (claim 1)

- "a location of said first wireless device is operable to be recorded on said remote system" (claim 1)

- "a location-based event is operable to be provided based, at least in part, on said location" (claim 1)

- "a location-based event is operable to be provided based, at least in part, on said location of said first wireless device" (claim 1)

- "said located-based event is operable to be manually pre-selected from a list of at least three types of location-based events on a device" (claim 1)

- "a location-based event notification is operable to be provided on said device as a result of, at least in part, location access rights of said device from said first wireless device" (claim 1)

- "wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based" (claim 1)

- "said first wireless device includes a first global positioning system that is operable to provide said location and a second device is provided that includes a second global positioning system that is operable to provide a second location, wherein said second location is stored on said remote system" (claim 4)

- "wherein a display screen is provided on said first wireless device after said identifying of said user information on said first wireless device that includes a first selectable option for providing a first map associated with said location and a second selectable option for providing a second map associated with a third location of a third user information" (claim 7)

- "wherein said first wireless device is operable after said identifying of said user information on said first wireless device to provide a first map associated with said location and a second map associated with a third location of a third user information" (claim 8)

- "wherein said first wireless device is operable after said identifying of said user information on said first wireless device to provide a travel time between said location associated with said first user information and a third location associated with a third user information" (claim 9)

[redacted]

E. Obviousness-Type Double Patenting

1. Legal Background Regarding Obviousness-Type Double Patenting

Samsung incorporates by reference the legal background section on obviousness-type double patenting for the ’283 Patent as if fully set forth herein. See Section III.E.1.

2. Invalidity Based On Obviousness-Type Double Patenting

Here, the ’039 Patent claims to have an expiration date of September 7, 2024, based on the filing date of the earliest continuation patent in the chain, and a patent term adjustment (“PTA”) under 35 U.S.C. § 154(b) of 532 days. No terminal disclaimer for the ’039 Patent has been filed. Based on the foregoing and the analysis below, the ’039 Asserted Claims are invalid under the doctrine of obviousness-type double patenting, in view of the claims of the ’575, ’540, ’218, ’418, ’117, and ’024 Patents. For example, by way of illustration and not limitation, the ’039 Asserted Claims would have been obvious over each of the following sets of claims, alone or in combination with the knowledge of a PHOSITA and/or in combination with the references identified above in Section B:

’039 Asserted Claim	Earlier-Expiring Reference Claims
1	’117 Patent, claim 29
4	’117 Patent, claims 1, 15, 29, 30, 42, 59, 77; ’024 Patent, claims 38, 59, 72; ’540 Patent, claim 23; ’418 Patent, claim 7
7	’117 Patent, claims 29, 31; ’218 Patent, claim 16
8	’117 Patent, claims 29, 31; ’218 Patent, claim 16
9	’117 Patent, claims 29, 32, 48; ’024 Patent, claim 50; ’540 Patent, claim 7
13	’117 Patent, claims 29, 43, 73, 74; 024 Patent, claim 46; ’540 Patent, claim 2

These identified reference claims are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

VI. '218 PATENT

A. Priority Date

The application for the '218 Patent was filed on August 20, 2007, claiming priority to U.S. Provisional Application No. 60/367,967, which was filed on March 25, 2002. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the '218 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 ('967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the '967 Provisional are substantially different from the specification of the '218 Patent, as numerous elements of the '218 Patent specification and figures are absent from the '967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the '967 Provisional provide written description for the '218 Asserted Claims.

In view of the substantial differences between the disclosures, the '218 Asserted Claims cannot claim priority to the '967 Provisional. For example, the '967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- "said display screen includes indicia on said map representative of a second user according to a second location obtained from a second wireless device" (claim 11)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '218 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '218 Patent is March 25, 2002, the date asserted by Mullen in its Infringement

Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the ’218 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the ’218 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen’s apparent interpretation of the claims. References that are marked with an asterisk (“*”) are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the ’218 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits E1 through E27. To the extent Mullen contends that any of these references are not enabling, then the ’218 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
E1*	US 2004/0024846 (Randall)	United States	August 22, 2001	February 5, 2004
E2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
E3	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10, 2002
E4	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
E5	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
E6	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
E7*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
E8*	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
E9	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
E10	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
E11	US 6,944,443 (Bates)	United States	July 11, 2001	January 16, 2003
E12 *	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
E13 *	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
E14	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001
E15	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
E16	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
E17 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
E18	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
E19	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
E20	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002
E21 *	JP 2001/059740 (Nakano)	Japan	August 25, 1999	March 6, 2001
E22 *	US 7,177,651 (Almassy)	United States	September 22, 2000	February 13, 2007
E23	US 7,013,148 (Ganesh)	United States	December 21, 2001	March 14, 2006
E24	US 5,583,776 (Levi)	United States	March 16, 1995	December 10, 1996
E25	US 6,415,224 (Wako)	United States	February 6, 2001	July 2, 2002
E26	JPH11272698 (Kobayashi)	Japan	March 20, 1998	October 8, 1999
E27	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000

[redacted]

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '218 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits E28-E30. The following systems anticipate or render obvious each of the '218 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300 system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit E28.
    a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)
    b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)
    c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
    d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
    e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/
    f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)
    g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
    h. Sprint PCS SPH-N300 User Manual, Sprint
    i. Samsung SPH-N300 User Manual, Samsung

[redacted]

j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit E29.
    a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
    b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
    c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
    d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
    e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
    f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
    g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
    h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
    i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit E30.
    a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)

[redacted]

b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)
d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section VI.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '218 Patent. See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter

[redacted]

of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits E1-E30. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the ’218 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section VI.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’218 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’218 Asserted Claims (hereinafter “Primary References”).

- Randall
- Rice
- Almassy
- Futagami

[redacted]

- Obradovich
- Sheha
- Enzmann
- Fomukong
- Thomas
- De Vries
- Ozaki
- Thomas
- Tachikawa

3. Obviousness Of Obviousness Of Access Rights Including A Plurality of Levels

The ’218 Asserted Claims recite limitations relating to access rights including a plurality of levels. For example, these limitations appear in the following claims:

- Claim 15: “wherein said first wireless device associates one of several access levels with said first location, said one of said several access levels permits said wireless telephonic device to access said first location”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose access rights including a plurality of levels.

- Rice. *See* Ex. E2 at Claim 15.
- Futagami. *See* Ex. E5 at Claim 15.
- De Vries. *See* Ex. E12 at Claim 15.
- Tanaka. *See* Ex. E16 at Claim 15.
- Tachikawa. *See* Ex. E17 at Claim 15.
- Degnbol. *See* Ex. E18 at Claim 15.
- SP(C)H-N300. *See* Ex. E28 at Claim 15.
- Benefon Esc! *See* Ex. E29 at Claim 15.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing access rights including a plurality of levels for the reasons discussed above in Section IV.C.7. In light of the disclosures discussed above in Section

[redacted]

IV.C.7, a PHOSITA would be motivated to modify any Primary Reference to include access rights including a plurality of levels to the extent not already disclosed by the Primary Reference.

4. Obviousness Of Displaying a Compass

The ’218 Asserted Claims recite limitations relating to displaying a compass. For example, these limitations appear in the following claims:

- Claim Element 11(f): “said display screen includes a compass”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose displaying a compass.

- Obradovich. *See* Ex. E6 at Claim 11(f).
- Sheha. *See* Ex. E7 at Claim 11(f).
- Ryden. *See* Ex. E15 at Claim 11(f).
- Tachikawa. *See* Ex. E17 at Claim 11(f).
- Nakano. *See* Ex. E21 at Claim 11(f).
- Almassy. *See* Ex. E22 at Claim 11(f).
- Levi. *See* Ex. E24 at Claim 11(f).
- Wako. *See* Ex. E25 at Claim 11(f).
- Kawamoto. *See* Ex. E27 at Claim 11(f).
- Benefon Esc! *See* Ex. E29 at Claim 11(f).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing displaying a compass for the reasons discussed above in Section IV.C.9. In light of the disclosures discussed above in Section IV.C.9, a PHOSITA would be motivated to modify any Primary Reference to include displaying a compass to the extent not already disclosed by the Primary Reference.

5. Obviousness Of Providing/Displaying Directions, Distance, or Time to Travel

The ’218 Asserted Claims recite limitations relating to providing/displaying directions, distance, or time to travel. For example, these limitations appear in the following claims:

- Claim Element 11(e): "said display screen includes a distance from said wireless telephonic device to said first location"
- Claim Element 11(g): "said display screen includes an address of said first location"
- Claim Element 11(h): "said display screen includes a travel time based on at least the first location and the location of said wireless telephonic device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying directions, distance, or time to travel.

- Rice. *See* Ex. E2 at Claims 11(e), 11(g), and 11(h).
- Obradovich. *See* Ex. E6 at Claims 11(e), 11(g), and 11(h).
- Sheha. *See* Ex. E7 at Claims 11(e), 11(g), and 11(h).
- Bates. *See* Ex. E11 at Claims 11(e), 11(g), and 11(h).
- Ryden. *See* Ex. E15 at Claims 11(e), 11(g), and 11(h).
- Tachikawa. *See* Ex. E17 at Claims 11(e), 11(g), and 11(h).
- Degnbol. *See* Ex. E18 at Claims 11(e), 11(g), and 11(h).
- Nakano. *See* Ex. E21 at Claims 11(e), 11(g), and 11(h).
- Almassy. *See* Ex. E22 at Claims 11(e), 11(g), and 11(h).
- Ganesh. *See* Ex. E23 at Claims 11(e), 11(g), and 11(h).
- Levi. *See* Ex. E24 at Claims 11(e), 11(g), and 11(h).
- Wako. *See* Ex. E25 at Claims 11(e), 11(g), and 11(h).
- Kawamoto. *See* Ex. E27 at Claims 11(e), 11(g), and 11(h).
- Benefon Esc! *See* Ex. E29 at Claims 11(e), 11(g), and 11(h).
- CellPoint Finder! *See* Ex. E30 at Claims 11(e), 11(g), and 11(h).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing providing/displaying directions, distance, or time to travel for the reasons discussed above in Section II.C.4. In light of the disclosures discussed above in Section II.C.4, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying directions, distance, or time to travel to the extent not already disclosed by the Primary Reference.

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6. Obviousness Of Providing/Displaying Location of Another Device

The ’218 Asserted Claims recite limitations relating to providing/displaying location of another device. For example, these limitations appear in the following claims:

- Claim Element 11(a): “a wireless device operable to provide a display screen after a request from said wireless telephonic device for access to a first location of a first wireless device”
- Claim Element 11(b): “wherein said display screen includes a map from the perspective of said wireless device”
- Claim Element 11(d): “said display screen includes indicia on said map representative of a second user according to a second location obtained from a second wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose to providing/displaying location of another device.

- Rice. *See* Ex. E2 at Claims 11(a), 11(b), and 11(d).
- Sandhu. *See* Ex. E3 at Claims 11(a), 11(b), and 11(d).
- Meadows. *See* Ex. E4 at Claims 11(a), 11(b), and 11(d).
- Obradovich. *See* Ex. E6 at Claims 11(a), 11(b), and 11(d).
- Sheha. *See* Ex. E7 at Claims 11(a), 11(b), and 11(d).
- Enzmann. *See* Ex. E8 at Claims 11(a), 11(b), and 11(d).
- Fomukong. *See* Ex. E9 at Claims 11(a), 11(b), and 11(d).
- Thomas. *See* Ex. E10 at Claims 11(a), 11(b), and 11(d).
- Bates. *See* Ex. E11 at Claims 11(a), 11(b), and 11(d).
- DeVries. *See* Ex. E12 at Claims 11(a), 11(b), and 11(d).
- Ozaki. *See* Ex. E13 at Claims 11(a), 11(b), and 11(d).
- Han. *See* Ex. E14 at Claims 11(a), 11(b), and 11(d).
- Ryden. *See* Ex. E15 at Claims 11(a), 11(b), and 11(d).
- Degnbol. *See* Ex. E18 at Claims 11(a), 11(b), and 11(d).
- Marcarelli. *See* Ex. E19 at Claims 11(a), 11(b), and 11(d).
- Okubo. *See* Ex. E20 at Claims 11(a), 11(b), and 11(d).
- Nakano. *See* Ex. E21 at Claims 11(a), 11(b), and 11(d).

- Almassy. *See* Ex. E22 at Claims 11(a), 11(b), and 11(d).
- Ganesh. *See* Ex. E23 at Claims 11(a), 11(b), and 11(d).
- Kobayashi. *See* Ex. E26 at Claims 11(a), 11(b), and 11(d).
- Kawamoto. *See* Ex. E27 at Claims 11(a), 11(b), and 11(d).
- Benefon Esc! *See* Ex. E29 at Claims 11(a), 11(b), and 11(d).
- CellPoint Finder! *See* Ex. E30 at Claims 11(a), 11(b), and 11(d).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing providing/displaying location of another device for the reasons discussed above in Section III.C.8. In light of the disclosures discussed above in Section III.C.8, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying location of another device to the extent not already disclosed by the Primary Reference.

7. Obviousness Of Displaying A User-Selected Object, Indicia, or Landmark on A Map

The ’218 Asserted Claims recite limitations relating to displaying a user-selected object, indicia, or landmark on a map. For example, these limitations appear in the following claims:

- Claim Element 11(c): “said display screen includes indicia on said map representative of said first location”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose displaying a user-selected object, indicia, or landmark on a map.

- Meadows. *See* Ex. E4 at Claim 11(c).
- Obradovich. *See* Ex. E6 at Claim 11(c).
- Sheha. *See* Ex. E7 at Claim 11(c).
- Enzmann. *See* Ex. E8 at Claim 11(c).
- Thomas. *See* Ex. E10 at Claim 11(c).
- Tachikawa. *See* Ex. E17 at Claim 11(c).
- Marcarelli. *See* Ex. E19 at Claim 11(c).
- Okubo. *See* Ex. E20 at Claim 11(c).
- Nakano. *See* Ex. E21 at Claim 11(c).
- Ganesh. *See* Ex. E23 at Claim 11(c).

- Levi. *See* Ex. E24 at Claim 11(c).
- Wako. *See* Ex. E25 at Claim 11(c).
- Kobayashi. *See* Ex. E26 at Claim 11(c).
- Benefon Esc! *See* Ex. E29 at Claim 11(c).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing displaying a user-selected object, indicia, or landmark on a map for the reasons discussed above in Section IV.C.14. In light of the disclosures discussed above in Section IV.C.14, a PHOSITA would be motivated to modify any Primary Reference to include displaying a user-selected object, indicia, or landmark on a map to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the ’575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the ’218 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The ’218 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- “a map from the perspective of said wireless device” (claim 11)

- "said wireless telephonic device" (claim 11)
- "said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said first location" (claim 12-14)
- "said second wireless device associates a second permission with said second location to permit said wireless telephonic device to access said second location" (claim 14)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '218 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "a map from the perspective of said wireless device" (claim 11)
- "said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said first location" (claim 12-14)
- "said second wireless device associates a second permission with said second location to permit said wireless telephonic device to access said second location" (claim 14)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '218 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "a map from the perspective of said wireless device" (claim 11)
- "said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said first location" (claim 12-14)
- "said second wireless device associates a second permission with said second location to permit said wireless telephonic device to access said second location" (claim 14)

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E. Obviousness-Type Double Patenting

1. Legal Background Regarding Obviousness-Type Double Patenting

Samsung incorporates by reference the legal background section on obviousness-type double patenting for the ’283 Patent as if fully set forth herein. See Section III.E.1.

2. Invalidity Based On Obviousness-Type Double Patenting

Here, the ’218 Patent claims to have an expiration date of May 21, 2024, based on the filing date of the earliest continuation patent in the chain, and a patent term adjustment (“PTA”) under 35 U.S.C. § 154(b) of 423 days. No terminal disclaimer for the ’218 Patent has been filed. Based on the foregoing and the analysis below, the ’218 Asserted Claims are invalid under the doctrine of obviousness-type double patenting, in view of the claims of the ’575, ’540, ’418, ’117, and ’024 Patents. For example, by way of illustration and not limitation, the ’218 Asserted Claims would have been obvious over each of the following sets of claims, alone or in combination with the knowledge of a PHOSITA and/or in combination with the references identified above in Section B:

’218 Asserted Claim	Earlier-Expiring Reference Claims
11	’117 Patent, claims 4, 42, 46, 47, 48, 60, 61
12	’117 Patent, claims 1, 4, 15, 17, 42, 46, 47, 48, 53, 60, 61, 63, 73
13	’117 Patent, claims 1, 4, 15, 17, 42, 46, 47, 48, 53, 60, 61, 63, 73
14	’117 Patent, claims 1, 4, 15, 17, 42, 46, 47, 48, 53, 60, 61, 63, 73
15	’117 Patent, claims 4, 42, 45, 46, 47, 48, 49, 50, 60, 61; ’024 Patent, claims 48, 51, 52

These identified reference claims are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

VII. '418 PATENT

A. Priority Date

The application for the '418 Patent was filed on July 12, 2006, claiming priority to U.S. Provisional Application No. 60/367,967, which was filed on March 25, 2002. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the '418 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 ('967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the '967 Provisional are substantially different from the specification of the '418 Patent, as numerous elements of the '418 Patent specification and figures are absent from the '967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the '967 Provisional provide written description for the '418 Asserted Claims.

In view of the substantial differences between the disclosures, the '418 Asserted Claims cannot claim priority to the '967 Provisional. For example, the '967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- "a first wireless device, wherein a location of said first wireless device is operable of being determined and provided to a remote system" (claim 1)
- "said permission is operable of being stored in said remote system, wherein said remote system is located remotely from said first and second wireless devices" (claim 1)
- "said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said

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permission outside of said call, wherein said first wireless device is operable of providing a first map provided with respect to said location" (claim 1)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '418 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '418 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the '418 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the '418 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen's apparent interpretation of the claims. References that are marked with an asterisk ("*") are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the '418 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits F1 through F25. To the extent Mullen contends that any of these references are not enabling, then the '418 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
F1*	US 2004/0024846 (Randall)	United States	August 22, 2001	February 5, 2004
F2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
F3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10,

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
				2002
F4	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
F5*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
F6*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
F7*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
F8*	US. 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
F9*	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
F10 *	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
F11 *	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
F12 *	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
F13	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
F14 *	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001
F15	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
F16	US. 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
F17 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
F18	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
F19	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
F20 *	JP 2001/059740 (Nakano)	Japan	August 25, 1999	March 6, 2001
F21	US 2002/0069312 (Jones)	United States	July 3, 2001	June 6, 2002
F22 *	US 6,714,791 (Friedman)	United States	February 23, 2001	August 29, 2002
F23	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002

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Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
F24 *	WO 2001/091486 (Darling)	Great Britain	May 22, 2001	November 29, 2001
F25	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '418 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits F26-F29. The following systems anticipate or render obvious each of the '418 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Qualcomm's gpsOne™ system ("gpsOne"). gpsOne qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than November 18, 1999, or (2) reduced to practice in the United States no later than November 18, 1999 without being abandoned, suppressed, or concealed. To support gpsOne's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit F26.
    a. S*napTrack Announces Commercial Availability of SnapWARN Global Positioning Satellite Data Feed to Support gpsOne-based E911 Wireless Location Systems for Cell Phone Safety*, Qualcomm (Oct. 7, 2001), https://www.qualcomm.com/news/releases/2001/10/snaptrack-announces-commercial-availability-snapwarn-global-positioning ("SnapTrack").
    b. *Qualcomm Announces Mobile-Based Capability for gpsOne Technology*, Qualcomm (Jan. 15, 2002), https://www.qualcomm.com/news/releases/2002/01/qualcomm-announces-mobile-based-capability-gpsone-technology ("Mobile-Based Capability for gpsOne").
    c. *Qualcomm Announces Over One Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (May 7, 2002), https://www.qualcomm.com/news/releases/2002/05/qualcomm-

[redacted]

announces-over-one-million-subscribers-served-gpsone-enabled ("Over One Million Subscribers").

d. *Qualcomm Announces More Than Five Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (Nov. 17, 2002), https://www.qualcomm.com/news/releases/2002/11/qualcomm-announces-more-five-million-subscribers-served-gpsone-enabled ("Five Million Subscribers").

e. *Qualcomm Congratulates Hutchison CAT for the First Launch of gpsOne™-Enabled Consumer Mobile Phone Location Services in Southeast Asia*, Qualcomm (Jan. 27, 2004), https://www.qualcomm.com/news/releases/2004/01/qualcomm-congratulates-hutchison-cat-first-launch-gpsone-enabled-consumer ("Hutchison").

f. WO 2000/029868 ("Soliman"), published May 25, 2000, and filed Nov. 18, 1999

g. Samir Soliman et al., *gpsOne™: A Hybrid Position Location System, 2000 IEEE Sixth International Symposium on Spread Spectrum Techniques and Applications* ("Soliman Publication")

h. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution*, PR Newswire Europe (Oct. 10, 1999)

i. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution; Integrated CDMA Chipset and Software Solution Under Development to Meet Future Market Demand for Position Location Services*, PR Newswire (Oct. 11, 1999, 1:02 ET)

j. *Qualcomm Debuts Multimedia Chipset*, Radio Comm. Report (Feb. 28, 2000)

k. *Qualcomm Previews Wireless Location Chips*, Global Positioning & Navigation News (Feb. 23, 2000)

l. *Qualcomm Unveils Devt Plans For Mobile Station Modem Pdts*, Dow Jones News Service (Oct. 11, 1999, 7:07 PM GMT)

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300 system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit F27.

   a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)

   b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)

[redacted]

c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/
f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)
g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
h. Sprint PCS SPH-N300 User Manual, Sprint
i. Samsung SPH-N300 User Manual, Samsung
j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit F28.
    a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
    b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
    c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
    d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
    e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
    f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/

[redacted]

g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

4. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit F29.
    a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
    b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
    c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)
    d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
    e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
    f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

[redacted]

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section VII.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '418 Patent. See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits F1-F29. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the '418 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section VII.B with the knowledge of one of ordinary skill or (2) any of the

[redacted]

exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’418 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’418 Asserted Claims (hereinafter “Primary References”).

- Randall
- Rice
- Sandhu
- Friedman
- Futagami
- Obradovich
- Sheha
- Enzmann
- Fomukong
- Thomas
- De Vries
- Wollrab
- Ozaki
- Thomas
- Benefon Esc!
- CellPoint Finder!
- Tachikawa

3. Obviousness Of Modifying/Changing Access Rights

The ’418 Asserted Claims recite limitations relating to modifying/changing access rights. For example, these limitations appear in the following claims:

- Claim 6: “wherein said permission is operable of being removed, by said first wireless device, for said second wireless device to obtain said location

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose modifying/changing access rights.

- Randall. *See* Ex. F1 at Claim 6.
- Rice. *See* Ex. F2 at Claim 6.
- Sandhu. *See* Ex. F3 at Claim 6.
- Futagami. *See* Ex. F5 at Claim 6.
- Sheha. *See* Ex. F7 at Claim 6.
- Enzmann. *See* Ex. F8 at Claim 6.
- Fomukong. *See* Ex. F9 at Claim 6.
- Thomas. *See* Ex. F10 at Claim 6.
- De Vries. *See* Ex. F11 at Claim 6.
- Tanaka. *See* Ex. F16 at Claim 6.
- Tachikawa. *See* Ex. F17 at Claim 6.
- Degnbol. *See* Ex. F18 at Claim 6.
- Friedman. *See* Ex. F22 at Claim 6.
- SP(C)H-N300. *See* Ex. F27 at Claim 6.
- Benefon Esc! *See* Ex. F28 at Claim 6.
- CellPoint Finder! *See* Ex. F28 at Claim 6.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing modifying/changing access rights for the reasons discussed above in Section II.C.3. In light of the disclosures discussed above in Section II.C.3, a PHOSITA would be motivated to modify any Primary Reference to include modifying/changing access rights to the extent not already disclosed by the Primary Reference.

4. Obviousness Of Limiting Location Access Rights to a Specific Period of Time

The ’418 Asserted Claims recite limitations relating to limiting location access rights to a specific period of time. For example, these limitations appear in the following claims:

- Claim 13: “wherein said permission is assigned for a period of time”

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose limiting location access rights to a specific period of time.

- Randall. *See* Ex. F1 at Claim 13.
- Rice. *See* Ex. F2 at Claim 13.
- De Vries. *See* Ex. F11 at Claim 13.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing limiting location access rights to a specific period of time for the reasons discussed above in Section IV.C.10. In light of the disclosures discussed above in Section IV.C.10, a PHOSITA would be motivated to modify any Primary Reference to include limiting location access rights to a specific period of time to the extent not already disclosed by the Primary Reference.

5. Obviousness Of Location Access Rights Is Provided to the Second Device Even When the First Device Is Off

The ’418 Asserted Claims recite limitations relating to location access rights is provided to the second device even when the first device is off. For example, these limitations appear in the following claims:

- Claim 17: “wherein said first wireless device is OFF when said location is provided to said second wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose location access rights is provided to the second device even when the first device is off.

- Rice. *See* Ex. F2 at Claim 17.
- Obradovich. *See* Ex. F6 at Claim 17.
- Fomukong. *See* Ex. F9 at Claim 17.
- Thomas. *See* Ex. F10 at Claim 17.
- Wollrab. *See* Ex. F12 at Claim 17.

- Ryden. *See* Ex. F15 at Claim 17.
- Friedman. *See* Ex. F22 at Claim 17.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing location access rights is provided to the second device even when the first device is off for the reasons discussed above in Section IV.C.11. In light of the disclosures discussed above in Section IV.C.11, a PHOSITA would be motivated to modify any Primary Reference to include location access rights is provided to the second device even when the first device is off to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Providing/Displaying Location of Another Device

The '418 Asserted Claims recite limitations relating to providing/displaying location of another device. For example, these limitations appear in the following claims:

- Claim Element 1(e[ii]): "wherein said first wireless device is operable of providing a first map provided with respect to said location"
- Claim 10: "wherein a second location is associated with said second wireless device and said location of said first wireless device is displayed relative to said second location of said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying location of another device.

- Rice. *See* Ex. F2 at Claims 1(e[ii]) and 10.
- Sandhu. *See* Ex. F3 at Claims 1(e[ii]) and 10.
- Meadows. *See* Ex. F4 at Claims 1(e[ii]) and 10.
- Friedman. *See* Ex. F24 at Claims 1(e[ii]) and 10.
- Obradovich. *See* Ex. F6 at Claims 1(e[ii]) and 10.
- Sheha. *See* Ex. F7 at Claims 1(e[ii]) and 10.
- Enzmann. *See* Ex. F8 at Claims 1(e[ii]) and 10.
- Fomukong. *See* Ex. F9 at Claims 1(e[ii]) and 10.
- Thomas. *See* Ex. F10 at Claims 1(e[ii]) and 10.

- DeVries. *See* Ex. F11 at Claims 1(e[ii]) and 10.
- Wollrab. *See* Ex. F12 at Claims 1(e[ii]) and 10.
- Ozaki. *See* Ex. F13 at Claims 1(e[ii]) and 10.
- Han. *See* Ex. F14 at Claims 1(e[ii]) and 10.
- Ryden. *See* Ex. F15 at Claims 1(e[ii]) and 10.
- Tachikawa. *See* Ex. F17 at Claims 1(e[ii]) and 10.
- Degnbol. *See* Ex. F18 at Claims 1(e[ii]) and 10.
- Marcarelli. *See* Ex. F19 at Claims 1(e[ii]) and 10.
- Nakano. *See* Ex. F20 at Claims 1(e[ii]) and 10.
- Jones. *See* Ex. F21 at Claims 1(e[ii]) and 10.
- Okubo. *See* Ex. F23 at Claims 1(e[ii]) and 10.
- Kawamoto. See Ex. F25 at Claims 1(e[ii]) and 10.
- gpsOne. *See* Ex. F26 at Claims 1(e[ii]) and 10.
- Benefon Esc! *See* Ex. F28 at Claims 1(e[ii]) and 10.
- CellPoint Finder! *See* Ex. F29 at Claims 1(e[ii]) and 10.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing providing/displaying location of another device for the reasons discussed above in Section III.C.8. In light of the disclosures discussed above in Section III.C.8, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying location of another device to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the ’575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the ’418 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight

when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The ’418 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- Claim 1 is indefinite as a mixed method and apparatus claim.
- “a location of said first wireless device is operable of being determined and provided to a remote system” (claim 1)
- “said location of said first wireless device is operable of being requested by a second wireless device” (claim 1)
- “outside of a call for communication between said first wireless device and said second wireless device” (claim 1)
- “a permission is operable of being provided by said first wireless device for said second wireless device to access location information about said location” (claim 1)
- “said permission is operable of being stored in said remote system” (claim 1)
- “said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call” (claim 1)
- “a first map provided with respect to said location” (claim 1)
- “A system comprising: a first wireless device, wherein a location of said first wireless device is operable of being determined and provided to a remote system . . . said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call” (claim 1)
- “said facility” (claim 7)
- “a period of time” (claim 13)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The ’418 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the

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specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "a location of said first wireless device is operable of being determined and provided to a remote system" (claim 1)
- "said location of said first wireless device is operable of being requested by a second wireless device" (claim 1)
- "outside of a call for communication between said first wireless device and said second wireless device" (claim 1)
- "a permission is operable of being provided by said first wireless device for said second wireless device to access location information about said location" (claim 1)
- "said permission is operable of being stored in said remote system" (claim 1)
- "said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call" (claim 1)
- "a first map provided with respect to said location" (claim 1)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '418 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "a location of said first wireless device is operable of being determined and provided to a remote system" (claim 1)
- "said location of said first wireless device is operable of being requested by a second wireless device" (claim 1)
- "outside of a call for communication between said first wireless device and said second wireless device" (claim 1)
- "a permission is operable of being provided by said first wireless device for said second wireless device to access location information about said location" (claim 1)
- "said permission is operable of being stored in said remote system" (claim 1)

- "said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call" (claim 1)
- "a first map provided with respect to said location" (claim 1)

E. Obviousness-Type Double Patenting

1. Legal Background Regarding Obviousness-Type Double Patenting

Samsung incorporates by reference the legal background section on obviousness-type double patenting for the '283 Patent as if fully set forth herein. See Section III.E.1.

2. Invalidity Based On Obviousness-Type Double Patenting

Here, the '418 Patent claims to have an expiration date of March 31, 2023, based on the filing date of the earliest continuation patent in the chain, and a patent term adjustment ("PTA") under 35 U.S.C. § 154(b) of 6 days. No terminal disclaimer for the '418 Patent has been filed. Based on the foregoing and the analysis below, the '418 Asserted Claims are invalid under the doctrine of obviousness-type double patenting, in view of the claims of the '575, '540, '117, and '024 Patents. For example, by way of illustration and not limitation, the '418 Asserted Claims would have been obvious over each of the following sets of claims, alone or in combination with the knowledge of a PHOSITA and/or in combination with the references identified above in Section B:

'418 Asserted Claim	Earlier-Expiring Reference Claims
1	'117 Patent, claim 73
2	'117 Patent, claims 43, 73, 74; 024 Patent, claim 46; '540 Patent, claim 2
6	'117 Patent, claims 73, 76
7	'117 Patent, claims 73, 77
10	'117 Patent, claims 73, 79
13	'117 Patent, claims 5, 19, 34, 63, 66, 73, 81, 86; '540 Patent, claim 29; '024 Patent, claims 7, 28, 62

17	’117 Patent, claims 44, 73; 024 Patent, claims 14, 35, 47, 53; ’540 Patent, claims 3, 32

These identified reference claims are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

VIII. ’117 PATENT

A. Priority Date

The application for the ’117 Patent was filed on August 6, 2007, claiming priority to U.S. Provisional Application No. 60/367,967, which was filed on March 25, 2002. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the ’117 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 (’967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the ’967 Provisional are substantially different from the specification of the ’117 Patent, as numerous elements of the ’117 Patent specification and figures are absent from the ’967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the ’967 Provisional provide written description for the ’117 Asserted Claims.

In view of the substantial differences between the disclosures, the ’117 Asserted Claims cannot claim priority to the ’967 Provisional. For example, the ’967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- “providing said location of said wireless telephone to a remote server” (claim 1)
- “instructing said remote server to change a list of users on said remote server for a profile associated with said wireless telephone that are allowed to access said location by way of said remote server providing said location from said remote

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server to at least one of said users of said list of users, wherein each user of said list of users is representative of one of a plurality of wireless telephones" (claim 1)

- "providing said login and said password to a remote server for use in determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users, said determining including identifying a user of said wireless telephone using said login, determining said password is associated with said login, and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said wireless telephone" (claim 15)
- "receiving said location information for said one of said plurality of wireless telephones from a server" (claim 15)
- "providing said location for recording on a remote system in association with said user information" (claim 29)
- "selecting a location-based event that is based, at least in part, on a location of a second wireless telephone, wherein said location-based event is operable to be manually pre-selected from a list of at least three types of location-based events" (claim 29)
- "requesting a location of a second wireless device from a server located remotely from said wireless telephone and said second wireless device" (claim 42)
- "displaying on said wireless telephone an option to request location access rights from said second wireless device after it is determined that said wireless telephone does not have location access rights for said second wireless device" (claim 42)

- "transmitting a request to said server that said location access rights be assigned for said wireless telephone by said second wireless device" (claim 42)
- "receiving said location of said second wireless device from said server dependent upon said access rights" (claim 42)
- "providing said location to a remote system, wherein said location is operable of being requested by a second wireless device outside of a call for communication between said wireless telephone and said second wireless device" (claim 72)
- "providing a permission for said second wireless device to access location information about said location, said permission operable of being stored in said remote system, wherein said remote system is located remotely from said wireless telephone and said second wireless device, said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call" (claim 72)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '117 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '117 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the '117 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the '117 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either

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expressly or inherently as understood by a PHOSITA, or based on Mullen's apparent interpretation of the claims. References that are marked with an asterisk ("*") are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the '117 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits G1 through G28. To the extent Mullen contends that any of these references are not enabling, then the '117 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
G1*	US 2004/0024846 (Randall)	United States	August 22, 2001	February 5, 2004
G2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
G3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10, 2002
G4	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
G5*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
G6*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
G7*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
G8*	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006
G9*	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
G10 *	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
G11 *	US 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
G12 *	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
G13 *	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
G14	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001

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Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
G15	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
G16	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
G17 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
G18	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
G19	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
G20 *	JP 2001/059740 (Nakano)	Japan	August 25, 1999	March 6, 2001
G21 *	US 6,714,791 (Friedman)	United States	February 23, 2001	August 29, 2002
G22 *	US 6,553,236 (Dunko)	United States	March 28, 2000	April 22, 2003
G23	US 6,415,224 (Wako)	United States	February 6, 2001	July 2, 2002
G24	US 5,583,776 (Levi)	United States	March 16, 1995	December 10, 1996
G25	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002
G26	WO 2001/091486 (Darling)	Great Britain	May 22, 2001	November 29, 2001
G27	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000
G28	US 7,284,033 (Jhanji)	United States	December 13, 2000	July 3, 2003

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '117 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are

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attached as Exhibits G29-G32. The following systems anticipate or render obvious each of the '117 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Qualcomm's gpsOne™ system ("gpsOne"). gpsOne qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than November 18, 1999, or (2) reduced to practice in the United States no later than November 18, 1999 without being abandoned, suppressed, or concealed. To support gpsOne's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit G29.
    a. S*napTrack Announces Commercial Availability of SnapWARN Global Positioning Satellite Data Feed to Support gpsOne-based E911 Wireless Location Systems for Cell Phone Safety*, Qualcomm (Oct. 7, 2001), https://www.qualcomm.com/news/releases/2001/10/snaptrack-announces-commercial-availability-snapwarn-global-positioning ("SnapTrack").
    b. *Qualcomm Announces Mobile-Based Capability for gpsOne Technology*, Qualcomm (Jan. 15, 2002), https://www.qualcomm.com/news/releases/2002/01/qualcomm-announces-mobile-based-capability-gpsone-technology ("Mobile-Based Capability for gpsOne").
    c. *Qualcomm Announces Over One Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (May 7, 2002), https://www.qualcomm.com/news/releases/2002/05/qualcomm-announces-over-one-million-subscribers-served-gpsone-enabled ("Over One Million Subscribers").
    d. *Qualcomm Announces More Than Five Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (Nov. 17, 2002), https://www.qualcomm.com/news/releases/2002/11/qualcomm-announces-more-five-million-subscribers-served-gpsone-enabled ("Five Million Subscribers").
    e. *Qualcomm Congratulates Hutchison CAT for the First Launch of gpsOne™-Enabled Consumer Mobile Phone Location Services in Southeast Asia*, Qualcomm (Jan. 27, 2004), https://www.qualcomm.com/news/releases/2004/01/qualcomm-congratulates-hutchison-cat-first-launch-gpsone-enabled-consumer ("Hutchison").
    f. WO 2000/029868 ("Soliman"), published May 25, 2000, and filed Nov. 18, 1999
    g. Samir Soliman et al., *gpsOne™: A Hybrid Position Location System, 2000 IEEE Sixth International Symposium on Spread Spectrum Techniques and Applications* ("Soliman Publication")
    h. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution*, PR Newswire Europe (Oct. 10, 1999)

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i. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution; Integrated CDMA Chipset and Software Solution Under Development to Meet Future Market Demand for Position Location Services*, PR Newswire (Oct. 11, 1999, 1:02 ET)
j. *Qualcomm Debuts Multimedia Chipset*, Radio Comm. Report (Feb. 28, 2000)
k. *Qualcomm Previews Wireless Location Chips*, Global Positioning & Navigation News (Feb. 23, 2000)
l. *Qualcomm Unveils Devt Plans For Mobile Station Modem Pdts*, Dow Jones News Service (Oct. 11, 1999, 7:07 PM GMT)

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300 system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit G30.
   a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)
   b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)
   c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
   d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
   e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/
   f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)
   g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
   h. Sprint PCS SPH-N300 User Manual, Sprint
   i. Samsung SPH-N300 User Manual, Samsung
   j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

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3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit G31.
    a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
    b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
    c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
    d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
    e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
    f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
    g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
    h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
    i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

4. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit G32.
    a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
    b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
    c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)

[redacted]

d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section VIII.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '117 Patent. See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits G1-G32. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information

shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the '117 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section VIII.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the '117 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the '117 Asserted Claims (hereinafter "Primary References").

- Randall
- Rice
- Sandhu
- Friedman
- Futagami
- Obradovich
- Dunko
- Sheha
- Enzmann
- Fomukong

[redacted]

- Thomas
- De Vries
- Wollrab
- Ozaki
- Benefon Esc!
- CellPoint Finder!
- Tachikawa

3. Obviousness Of Receiving Login and Password Information

The ’117 Asserted Claims recite limitations relating to receiving login and password information. For example, these limitations appear in the following claims:

- Claim Element 15(f): “receiving an input in a form of a login and a second manual input in a form of a password”
- Claim Element 15(g): “providing said login and said password to a remote server for use in determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users, said determining including identifying a user of said wireless telephone using said login, determining said password is associated with said login, and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said wireless telephone”
- Claim Element 29(d): “receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login”
- Claim 51: “wherein said programming is further capable of receiving a login and password from said wireless telephone to identify said wireless telephone”

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving login and password information.

- Randall. *See* Ex. G1 at Claims 15(f), 15(g), 29(d), and 51.
- Rice. *See* Ex. G2 at Claims 15(f), 15(g), 29(d), and 51.
- Sandhu. *See* Ex. G3 at Claims 15(f), 15(g), 29(d), and 51.
- Meadows. *See* Ex. G4 at Claims 15(f), 15(g), 29(d), and 51.
- Futagami. *See* Ex. G5 at Claims 15(f), 15(g), 29(d), and 51.
- Obradovich. *See* Ex. G6 at Claims 15(f), 15(g), 29(d), and 51.
- Sheha. *See* Ex. G7 at Claims 15(f), 15(g), 29(d), and 51.
- Enzmann. *See* Ex. G8 at Claims 15(f), 15(g), 29(d), and 51.
- Thomas. *See* Ex. G10 at Claims 15(f), 15(g), 29(d), and 51.
- Wollrab. *See* Ex. G12 at Claims 15(f), 15(g), 29(d), and 51.
- Han. *See* Ex. G14 at Claims 15(f), 15(g), 29(d), and 51.
- Tanaka. *See* Ex. G16 at Claims 15(f), 15(g), 29(d), and 51.
- Tachikawa. *See* Ex. G17 at Claims 15(f), 15(g), 29(d), and 51.
- Degnbol. *See* Ex. G18 at Claims 15(f), 15(g), 29(d), and 51.
- Marcarelli. *See* Ex. G19 at Claims 15(f), 15(g), 29(d), and 51.
- Nakano. *See* Ex. G20 at Claims 15(f), 15(g), 29(d), and 51.
- Friedman. *See* Ex. G21 at Claims 15(f), 15(g), 29(d), and 51.
- Dunko. *See* Ex. G22 at Claims 15(f), 15(g), 29(d), and 51.
- Okubo. *See* Ex. G25 at Claims 15(f), 15(g), 29(d), and 51.
- Darling. *See* Ex. G26 at Claims 15(f), 15(g), 29(d), and 51.
- Jhanji. *See* Ex. G28 at Claims 15(f), 15(g), 29(d), and 51.
- Benefon Esc! *See* Ex. G31 at Claims 15(f), 15(g), 29(d), and 51.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving login and password information for the reasons discussed above in Section III.C.3. In light of the disclosures discussed above in Section III.C.3, a PHOSITA would be motivated to modify any Primary Reference to include receiving login and password information to the extent not already disclosed by the Primary Reference.

[redacted]

4. Obviousness Of Making A Second Request for Location Access Rights If No Access Rights Were Determined

The '117 Asserted Claims recite limitations relating to making a second request for location access rights if no access rights were determined. For example, these limitations appear in the following claims:

- Claim Element 42(e): "displaying on said wireless telephone an option to request location access rights from said second wireless device after it is determined that said wireless telephone does not have location access rights for said second wireless device"
- Claim Element 42(f): "transmitting a request to said server that said location access rights be assigned for said wireless telephone by said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose making a second request for location access rights if no access rights were determined.

- Futagami. *See* Ex. G5 at Claims 42(e) and 42(f).
- Sheha. *See* Ex. G7 at Claims 42(e) and 42(f).
- Fomukong. *See* Ex. G9 at Claims 42(e) and 42(f).
- Thomas. *See* Ex. G10 at Claims 42(e) and 42(f).
- Tachikawa. *See* Ex. G17 at Claims 42(e) and 42(f).
- Friedman. *See* Ex. G21 at Claims 42(e) and 42(f).
- Darling. *See* Ex. G26 at Claims 42(e) and 42(f).
- gpsOne. *See* Ex. G29 at Claims 42(e) and 42(f).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing making a second request for location access rights if no access rights were determined for the reasons discussed above in Section IV.C.6. In light of the disclosures discussed above in Section IV.C.6, a PHOSITA would be motivated to

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modify any Primary Reference to include making a second request for location access rights if no access rights were determined to the extent not already disclosed by the Primary Reference.

5. Obviousness Of Access Rights Including A Plurality of Levels

The ’117 Asserted Claims recite limitations relating to access rights including a plurality of levels. For example, these limitations appear in the following claims:

- Claim 45: “wherein said location access rights comprise a plurality of access levels”
- Claim 49: “wherein said location access rights comprise a plurality of levels of access rights, at least one of said plurality of levels of access rights comprise the exact location of said second wireless device, and another one of said plurality of levels of access rights comprise an approximate location of said second wireless device”
- Claim 50: “wherein said access rights comprise a plurality of levels of access rights, at least one of said plurality of levels of access rights comprise an approximate location of said second wireless device, and said approximate location comprises a city or state.”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose access rights including a plurality of levels.

- Rice. *See* Ex. G2 at Claims 45, 49, and 50.
- Futagami. *See* Ex. G5 at Claims 45, 49, and 50.
- De Vries. *See* Ex. G11 at Claims 45, 49, and 50.
- Wollrab. *See* Ex. G12 at Claims 45, 49, and 50.
- Tanaka. *See* Ex. G16 at Claims 45, 49, and 50.
- Tachikawa. *See* Ex. G17 at Claims 45, 49, and 50.
- Degnbol. *See* Ex. G18 at Claims 45, 49, and 50.
- Dunko. *See* Ex. G22 at Claims 45, 49, and 50.
- Friedman. *See* Ex. G21 at Claims 45, 49, and 50.
- Jhanji. *See* Ex. G28 at Claims 45, 49, and 50.

- SP(C)H-N300. *See* Ex. G30 at Claims 45, 49, and 50.
- Benefon Esc! *See* Ex. G31 at Claims 45, 49, and 50.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing a plurality of levels for the reasons discussed above in Section IV.C.7. In light of the disclosures discussed above in Section IV.C.7, a PHOSITA would be motivated to modify any Primary Reference to include a plurality of levels to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Modifying/Changing Access Rights

The '117 Asserted Claims recite limitations relating to modifying/changing access rights. For example, these limitations appear in the following claims:

- Claim Element 1(e): "instructing said remote server to change a list of users on said remote server for a profile associated with said wireless telephone that are allowed to access said location by way of said remote server providing said location from said remote server to at least one of said users of said list of users, wherein each user of said list of users is representative of one of a plurality of wireless telephones"
- Claim 2: "wherein said programming capable of instructing said remote server to change a list of users comprises programming capable of instructing said remote server to add an additional user to said list of users"
- Claim 17: "wherein said programming is further capable of receiving a manual input for modifying said location access rights"
- Claim 53: "wherein said programming is further capable of displaying an option to modify rights of another wireless device to access the location of said wireless telephone"

[redacted]

- Claim 54: "wherein said programming is further capable of displaying an option to delete another wireless device's rights to access the location of said wireless telephone"
- Claim 63: "wherein said programming is further capable of displaying an option to modify rights of another wireless device to access the location of said wireless telephone comprising allowing a user of said wireless telephone to allow said another wireless device to access the location of said wireless telephone for a specific period of time"
- Claim 76: "wherein said programming is further capable of removing said permission, by said wireless telephone, for said second wireless device to obtain said location"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose modifying/changing access rights.

- Randall. *See* Ex. G1 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Rice. *See* Ex. G2 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Sandhu. *See* Ex. G3 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Futagami. *See* Ex. G5 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Sheha. *See* Ex. G7 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Enzmann. *See* Ex. G8 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Fomukong. *See* Ex. G9 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Thomas. *See* Ex. G10 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- De Vries. *See* Ex. G11 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Tanaka. *See* Ex. G16 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Tachikawa. *See* Ex. G17 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Degnbol. *See* Ex. G18 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Friedman. *See* Ex. G21 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Jhanji. *See* Ex. G28 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- SP(C)H-N300. *See* Ex. G30 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- Benefon Esc! *See* Ex. G31 at Claims 1(e), 2, 17, 53, 54, 63, and 76.
- CellPoint Finder! *See* Ex. G32 at Claims 1(e), 2, 17, 53, 54, 63, and 76.

[redacted]

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing modifying/changing access rights for the reasons discussed above in Section II.C.3. In light of the disclosures discussed above in Section II.C.3, a PHOSITA would be motivated to modify any Primary Reference to include modifying/changing access rights to the extent not already disclosed by the Primary Reference.

7. Obviousness Of Displaying A Compass

The '117 Asserted Claims recite limitations relating to displaying a compass. For example, these limitations appear in the following claims:

- Claim 60: "wherein said programming is further capable of displaying a compass"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose displaying a compass.

- Obradovich. *See* Ex. G6 at Claim 60.
- Sheha. *See* Ex. G7 at Claim 60.
- Ryden. *See* Ex. G15 at Claim 60.
- Tachikawa. *See* Ex. G17 at Claim 60.
- Nakano. *See* Ex. G20 at Claim 60.
- Dunko. *See* Ex. G22 at Claim 60.
- Wako. *See* Ex. G23 at Claim 60.
- Levi. *See* Ex. G24 at Claim 60.
- Benefon Esc! *See* Ex. G31 at Claim 60.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing displaying a compass for the reasons discussed above in Section IV.C.9. In light of the disclosures discussed above in Section IV.C.9, a PHOSITA would be motivated to modify any Primary Reference to include displaying a compass to the extent not already disclosed by the Primary Reference.

[redacted]

8. Obviousness Of Limiting Location Access Rights to a Specific Period of Time

The ’117 Asserted Claims recite limitations relating to limiting location access rights to a specific period of time. For example, these limitations appear in the following claims:

- Claim 5: “wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for only a specific period of time”
- Claim 18: “wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for an indefinite period of time”
- Claim 19: “wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for only a specific period of time”
- Claim 33: “wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for an indefinite period of time”
- Claim 34: “wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for only a specific period of time”
- Claim 63: “wherein said programming is further capable of displaying an option to modify rights of another wireless device to access the location of said wireless telephone comprising allowing a user of said wireless telephone to allow said another wireless device to access the location of said wireless telephone for a specific period of time”

[redacted]

- Claim 65: "wherein said programming is further capable of instructing said server to allow a user of said second wireless device to access said location of said wireless telephone for an indefinite period of time"
- Claim 66: "wherein said programming is further capable of instructing said server to allow a user of said second wireless device to access said location of said wireless telephone for only a specific period of time"
- Claim 81: "wherein said programming is further capable of assigning said permission for a specific period of time"
- Claim 84: "wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for an indefinite period of time"
- Claim 85: "wherein said programming is further capable of instructing said remote server to allow a user of said second wireless device to access said location of said wireless telephone for an indefinite period of time"
- Claim 86: "wherein said programming is further capable of instructing said remote server to allow a user of said second wireless device to access said location of said wireless telephone for only a specific period of time"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose limiting location access rights to a specific period of time.

- Randall. *See* Ex. G1 at Claims 5, 18, 19, 33, 34, 63, 65, 66, 81, and 84-86.
- Rice. *See* Ex. G2 at Claims 5, 18, 19, 33, 34, 63, 65, 66, 81, and 84-86.
- Thomas. *See* Ex. G10 at Claims 5, 18, 19, 33, 34, 63, 65, 66, 81, and 84-86.
- De Vries. *See* Ex. G11 at Claims 5, 18, 19, 33, 34, 63, 65, 66, 81, and 84-86.
- Tachikawa. *See* Ex. G17 at Claims 5, 18, 19, 33, 34, 63, 65, 66, 81, and 84-86.
- Degnbol. *See* Ex. G18 at Claims 5, 18, 19, 33, 34, 63, 65, 66, 81, and 84-86.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing limiting location access rights to a specific period of time for the reasons discussed above in Section IV.C.10. In light of the disclosures discussed above in Section IV.C.10, a PHOSITA would be motivated to modify any Primary Reference to include limiting location access rights to a specific period of time to the extent not already disclosed by the Primary Reference.

9. Obviousness Of Location Access Rights Is Provided to the Second Device Even When the First Device Is Off

The ’117 Asserted Claims recite limitations relating to location access rights is provided to the second device even when the first device is off. For example, these limitations appear in the following claims:

- Claim 44: “wherein said location access rights include the ability to obtain said location of said second wireless device, wherein said location is capable of being provided to said wireless telephone from said server even when said second wireless device is OFF”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose location access rights is provided to the second device even when the first device is off.

- Rice. *See* Ex. G2 at Claim 44.
- Obradovich. *See* Ex. G6 at Claim 44.
- Fomukong. *See* Ex. G9 at Claim 44.
- Thomas. *See* Ex. G10 at Claim 44.
- Wollrab. *See* Ex. G12 at Claim 44.
- Ryden. *See* Ex. G15 at Claim 44.
- Friedman. *See* Ex. G21 at Claim 44.
- Darling. *See* Ex. G26 at Claim 44.

[redacted]

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing location access rights is provided to the second device even when the first device is off for the reasons discussed above in Section IV.C.11. In light of the disclosures discussed above in Section IV.C.11, a PHOSITA would be motivated to modify any Primary Reference to include location access rights is provided to the second device even when the first device is off to the extent not already disclosed by the Primary Reference.

10. Obviousness Of Receiving And Displaying The Location Of Other Types Of Devices

The ’117 Asserted Claims recite limitations relating to receiving and displaying the location of other types of devices. For example, these limitations appear in the following claims:

- Claim 10: “wherein said programming is further capable of receiving and displaying a location of a watch”
- Claim 11: “wherein said programming is further capable of receiving and displaying a location of a radio”
- Claim 12: “wherein said programming is further capable of receiving and displaying a location of a car”
- Claim 24: “wherein said programming is further capable of receiving and displaying a location of a watch”
- Claim 25: “wherein said programming is further capable of receiving and displaying a location of a radio”
- Claim 26: “wherein said programming is further capable of receiving and displaying a location of a car”
- Claim 37: “wherein said programming is further capable of receiving and displaying a location of a watch”

[redacted]

- Claim 38: "wherein said programming is further capable of receiving and displaying a location of a radio"
- Claim 39: "wherein said programming is further capable of receiving and displaying a location of a car"
- Claim 68: "wherein said programming is further capable of receiving and displaying a location of a watch"
- Claim 69: "wherein said programming is further capable of receiving and displaying a location of a radio"
- Claim 70: "wherein said programming is further capable of receiving and displaying a location of a car"
- Claim 88: "wherein said programming is further capable of receiving and displaying a location of a watch"
- Claim 89: "wherein said programming is further capable of receiving and displaying a location of a radio"
- Claim 90: "wherein said programming is further capable of receiving and displaying a location of a car"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that receiving and displaying the location of other types of devices.

- Rice. *See* Ex. G2 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Sandhu. *See* Ex. G3 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Meadows. *See* Ex. G4 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Obradovich. *See* Ex. G6 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Thomas. *See* Ex. G10 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- De Vries. *See* Ex. G11 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Wollrab. *See* Ex. G12 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.

- Ozaki. *See* Ex. G13 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Han. *See* Ex. G14 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Ryden. *See* Ex. G15 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Tanaka. *See* Ex. G16 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Tachikawa. *See* Ex. G17 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- Degnbol. *See* Ex. G18 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.
- gpsOne. *See* Ex. G29 at Claims 10-12, 24-26, 37-39, 68-70, and 88-90.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing receiving and displaying the location of other types of devices for a number of reasons. A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing receiving and displaying the location of other types of devices for a number of reasons. A PHOSITA would have been motivated and found it obvious to combine and apply these teachings so that users of various communication devices can obtain the location of another communication device and allow others to track his or her location. *See* Sandhu at [0009]. A PHOSITA would have understood that it was also well known to generate location information for a variety of wireless communication devices. Rice, [0002]. Devices include "include but is not limited to wireless telephone, laptop, personal digital assistant, and pager." Sandhu, [0019]. "Examples of computing devices having communication capabilities include pagers, mobile phones, personal digital assistants (PDAs), palm-top computers, and electronic schedulers." Thomas, [0005]; *see also* De Vries at 5:21-28, 7:65-8:5; Wollrab at 2:4-12. As these references teach, a PHOSITA would have been motivated to receive and display locations of different devices because a user sometimes has many types of different devices (e.g., laptops, smartphones, wearables), and a user can locate his or her different devices or allow others to locate those devices.

[redacted]

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include receiving and displaying the location of other types of devices to the extent not already disclosed by the Primary Reference.

11. Obviousness Of Providing/Displaying Directions, Distance, or Time to Travel

The ’117 Asserted Claims recite limitations relating to providing/displaying directions, distance, or time to travel. For example, these limitations appear in the following claims:

- Claim Element 1(f): “receiving and displaying directional information to one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and a second location associated with said one of said plurality of wireless telephones”
- Claim 4: “wherein said programming is further capable of displaying the distance between said first wireless telephone and said one of said plurality of wireless telephones”
- Claim 16: “wherein said programming is further capable of displaying an option to obtain directions from said first wireless telephone to said one of said plurality of wireless telephones associated to said selected one of said plurality of users”
- Claim 32: “wherein said programming is further capable of displaying after receiving said location-based event notification a travel time between a location of said wireless telephone and a location of said second wireless telephone”
- Claim 47: “wherein said programming is further capable of using said location of said second wireless device to display directions from said location of said wireless telephone to said second wireless device”

[redacted]

- Claim 48: "wherein said programming is further capable of using said location of said second wireless device to display directions from said location of said wireless telephone to said location of said second wireless device and a travel time from said location of said wireless telephone to said location of said second wireless device"
- Claim 61: "wherein said programming is further capable of displaying a directional arrow indicative of a location of said second wireless device relative to said location of said second wireless telephone"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying directions, distance, or time to travel.

- Randall. *See* Ex. G1 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Rice. *See* Ex. G2 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Meadows. *See* Ex. G4 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Obradovich. *See* Ex. G6 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Sheha. *See* Ex. G7 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Ozaki. *See* Ex. G13 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Ryden. *See* Ex. G15 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Tachikawa. *See* Ex. G17 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Degnbol. *See* Ex. G18 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Nakano. *See* Ex. G20 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Wako. *See* Ex. G23 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Levi. *See* Ex. G24 Claims 1(f), 4, 16, 32, 47, 48, and 61.
- gpsOne. *See* Ex. G29 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- Benefon Esc! *See* Ex. G31 at Claims 1(f), 4, 16, 32, 47, 48, and 61.
- CellPoint Finder! *See* Ex. G32 at Claims 1(f), 4, 16, 32, 47, 48, and 61.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing providing/displaying directions, distance, or time to travel for the reasons discussed above in Section II.C.4. In light of the disclosures discussed above in Section II.C.4, a PHOSITA would be motivated to modify any Primary

[redacted]

Reference to include providing/displaying directions, distance, or time to travel to the extent not already disclosed by the Primary Reference.

12. Obviousness Of Providing/Displaying Directions/Time To Travel Based on Type of Travel

The ’117 Asserted Claims recite limitations relating to providing/displaying directions/time to travel based on type of travel. For example, these limitations appear in the following claims:

- Claim 13: “wherein said programming is further capable of receiving and displaying information indicating time to reach said second location from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving”
- Claim 27: “wherein said programming is further capable of receiving and displaying information indicating time to reach said second location from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving”
- Claim 40: “wherein said programming is further capable of receiving and displaying information indicating time to reach a second location associated with said second wireless telephone from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving”
- Claim 71: “wherein said programming is further capable of receiving and displaying information indicating time to reach said location from of said second wireless device from said location of said wireless telephone according to at least

two types of travel selected from the types of travel consisting of subway, walking, running, and driving"

- Claim 91: "wherein said programming is further capable of receiving and displaying information indicating time to reach a location of said second wireless device from said location of said wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying directions/time to travel based on type of travel.

- Sandhu. *See* Ex. G3 at Claims 13, 27, 40, 71, and 91.
- Meadows. *See* Ex. G4 at Claims 13, 27, 40, 71, and 91.
- Obradovich. *See* Ex. G6 at Claims 13, 27, 40, 71, and 91.
- Wollrab. *See* Ex. G12 at Claims 13, 27, 40, 71, and 91.
- Wako. *See* Ex. G23 at Claims 13, 27, 40, 71, and 91.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing providing/displaying directions/time to travel based on type of travel for a number of reasons. A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing providing/displaying directions/time to travel based on type of travel for a number of reasons. For example, providing/displaying directions/time to travel based on the type of travel would have been obvious to a PHOSITA because doing so allows the device to determine the "direction of travel, and speed of travel." Meadows at 5:25-27. Further, doing so allows the device to have "[r]eal time calculation and display of segment travel times accordingly allows the [] user to

[redacted]

accurately determine and estimate travel times to particular destinations over a plurality of different roads and road segments." Obradovich at 22:50-54.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying directions/time to travel based on type of travel to the extent not already disclosed by the Primary Reference.

13. Obviousness Of Receiving A Request For The Remote Server/System To Transmit Location-Based Event Notifications

The '117 Asserted Claims recite limitations relating to receiving a request for the remote server/system to transmit location-based event notifications. For example, these limitations appear in the following claims:

- Claim 6: "wherein said programming is further capable of receiving an alert regarding a user of said list of users based on a location of a wireless telephone associated with said user"
- Claim 7: "wherein said programming is further capable of requesting said remote server to provide said alert"
- Claim 21: "wherein said programming is further capable of requesting said remote server to provide said alert"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving a request for the remote server/system to transmit location-based event notifications.

- Rice. *See* Ex. G2 at Claims 6, 7, and 21.
- Obradovich. *See* Ex. G6 at Claims 6, 7, and 21.
- Thomas. *See* Ex. G10 at Claims 6, 7, and 21.
- Degnbol. *See* Ex. G18 at Claims 6, 7, and 21.
- Friedman. *See* Ex. G21 at Claims 6, 7, and 21.
- Dunko. *See* Ex. G22 at Claims 6, 7, and 21.
- Okubo. *See* Ex. G25 at Claims 6, 7, and 21.

- Jhanji. *See* Ex. G28 at Claims 6, 7, and 21.
- Benefon Esc! *See* Ex. G31 at Claims 6, 7, and 21.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing receiving a request for the remote server/system to transmit location-based event notifications for a number of reasons. For example, a PHOSITA would have understood that the user of a wireless device would want "notification provisions for alerting a wireless communications device when a request for location information is made." Rice, [0010]. "Real-time notification allows the user to single out other users by identity and, based upon this information, selectively (choose to) communicate with users in his area (or another designated area)." Degnbol at 12:10-12. The notifications can provide "alert of a predetermined location, alert of an unauthorized region, alert of change in location, etc." Thomas, [0045]. The notifications can also notify "user 'A' of the entry of pre-selected user 'B' into a pre-determined area (or proximity to a particular location)." *Id*. at 2:26-27. The notifications can be sent "to the monitoring party through a[n] email message (including two-way pager message), an instant response web-based message, through a web page provided at the mobile communication device, telephone message, and the like." Thomas, [0045].

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include receiving a request for the remote server/system to transmit location-based event notifications to the extent not already disclosed by the Primary Reference.

14. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Location of Another Device

The '117 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on location of another device. For example, these limitations appear in the following claims:

[redacted]

- Claim 9: "wherein said programing is further capable of receiving an alert when a user of said list of users locates said wireless telephone"
- Claim 20: "wherein said programing is further capable of receiving an alert when a user of said list of users locates said wireless telephone"
- Claim 23: "wherein said programing is further capable of receiving an alert when a user of said plurality of users locates said wireless telephone"
- Claim Element 29(f): "selecting a location-based event that is based, at least in part, on a location of a second wireless telephone, wherein said location-based event is operable to be manually pre-selected from a list of at least three types of location-based events"
- Claim 36: "wherein said programing is further capable of receiving an alert when a user of said second wireless telephone locates said wireless telephone"
- Claim 62: "wherein said programing is further capable of receiving an alert when a user of said second wireless telephone locates said wireless telephone"
- Claim 67: "wherein said programing is further capable of receiving an alert when a user of said second wireless device locates said wireless telephone"
- Claim 80: "wherein said programming is further capable of setting location alerts associated with said second wireless device"
- Claim 87: "wherein said programing is further capable of receiving an alert when a user of said second wireless device locates said wireless telephone"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on location of another device.

- Rice. *See* Ex. G2 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Sandhu. *See* Ex. G3 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Obradovich. *See* Ex. G6 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Fomukong. *See* Ex. G9 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Thomas. *See* Ex. G10 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- De Vries. *See* Ex. G11 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Wollrab. *See* Ex. G12 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Degnbol. *See* Ex. G18 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Friedman. *See* Ex. G21 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Dunko. *See* Ex. G22 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Jhanji. *See* Ex. G28 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.
- Benefon Esc! *See* Ex. G31 at Claims 9, 20, 23, 29(f), 36, 62, 67, 80, and 87.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on location of another device for the reasons discussed above in Section IV.C.15. In light of the disclosures discussed above in Section IV.C.15, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on location of another device to the extent not already disclosed by the Primary Reference.

15. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Distance

The ’117 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on distance. For example, these limitations appear in the following claims:

- Claim Element 29(h): “wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based”

[redacted]

- Claim 55: "wherein said programming is further capable of alerting said wireless telephone when said second wireless device is within a distance of said wireless telephone"
- Claim 78: "wherein said programming is further capable of receiving an alert when said second wireless device is within a distance of said wireless telephone"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on distance.

- Sandhu. *See* Ex. G3 at Claims 29(h), 55, and 78.
- Thomas. *See* Ex. G10 at Claims 29(h), 55, and 78.
- De Vries. *See* Ex. G11 at Claims 29(h), 55, and 78.
- Wollrab. *See* Ex. G12 at Claims 29(h), 55, and 78.
- Tanaka. *See* Ex. G16 at Claims 29(h), 55, and 78.
- Degnbol. *See* Ex. G18 at Claims 29(h), 55, and 78.
- Friedman. *See* Ex. G21 at Claims 29(h), 55, and 78.
- Dunko. *See* Ex. G22 at Claims 29(h), 55, and 78.
- Levi. *See* Ex. G24 at Claims 29(h), 55, and 78.
- Jhanji. *See* Ex. G28 at Claims 29(h), 55, and 78.
- Benefon Esc! *See* Ex. G31 at Claims 29(h), 55, and 78.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on distance for the reasons discussed above in Section IV.C.16. In light of the disclosures discussed above in Section IV.C.16, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on distance to the extent not already disclosed by the Primary Reference.

[redacted]

16. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Region

The ’117 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on region. For example, these limitations appear in the following claims:

- Claim 8: “wherein said programming is further capable of receiving an alert when said second wireless device is within a distance of said wireless telephone”
- Claim 22: “wherein said alert is geographic area-based, said programming is further capable of specifying said geographic area, and said alert indicates that said location of said wireless telephone associated with said user of said list of users is within said geographic area”
- Claim 29(h): “wherein said alert is geographic area-based, said programming is further capable of specifying said geographic area, and said alert indicates that said location of said wireless telephone associated with said user of said plurality of users is within said geographic area”
- Claim 35: “wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based”
- Claim 64: “wherein said programming is further capable of specifying said region, and said region-based location-based event indicates that said location of said second wireless telephone is within said region”
- Claim 82: “wherein said programming is further capable of providing an alert on said wireless telephone when said second wireless device enters a geographic area”

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on region.

- Rice. *See* Ex. G2 at Claims 8, 22, 29(h), 35, 64, and 82.
- Sandhu. *See* Ex. G3 at Claims 8, 22, 29(h), 35, 64, and 82.
- Friedman. *See* Ex. G21 at Claims 8, 22, 29(h), 35, 64, and 82.
- Fomukong. *See* Ex. G9 at Claims 8, 22, 29(h), 35, 64, and 82.
- Thomas. *See* Ex. G10 at Claims 8, 22, 29(h), 35, 64, and 82.
- De Vries. *See* Ex. G11 at Claims 8, 22, 29(h), 35, 64, and 82.
- Wollrab. *See* Ex. G12 at Claims 8, 22, 29(h), 35, 64, and 82.
- Tanaka. *See* Ex. G16 at Claims 8, 22, 29(h), 35, 64, and 82.
- Degnbol. *See* Ex. G18 at Claims 8, 22, 29(h), 35, 64, and 82.
- Dunko. *See* Ex. G22 at Claims 8, 22, 29(h), 35, 64, and 82.
- Levi. *See* Ex. G24 at Claims 8, 22, 29(h), 35, 64, and 82.
- Jhanji. *See* Ex. G28 at Claims 8, 22, 29(h), 35, 64, and 82.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on region for the reasons discussed above in Section IV.C.17. In light of the disclosures discussed above in Section IV.C.17, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on region to the extent not already disclosed by the Primary Reference.

17. Obviousness Of Location-Based Event Notifications Dependent On Location Access Rights

The ’117 Asserted Claims recite limitations relating to location-based event notifications dependent on location access rights. For example, these limitations appear in the following claims:

- Claim Element 29(g): “wherein said programming is further capable of being alerted when said second wireless device enters a geographic region”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose location-based event notifications dependent on location access rights.

- Obradovich. *See* Ex. G6 at Claim 29(g).
- Thomas. *See* Ex. G10 at Claim 29(g).
- De Vries. *See* Ex. G11 at Claim 29(g).
- Degnbol. *See* Ex. G18 at Claim 29(g).
- Friedman. *See* Ex. G21 at Claim 29(g).
- Dunko. *See* Ex. G22 at Claim 29(g).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving location-based event notifications dependent on location access rights for the reasons discussed above in Section V.C.8. In light of the disclosures discussed above in Section V.C.8, a PHOSITA would be motivated to modify any Primary Reference to include location-based event notifications dependent on location access rights to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the ’575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the ’117 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

[redacted]

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The ’117 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- “said first wireless telephone” (claims 4, 16)
- “said first wireless device” (claims 30, 83)
- “A wireless telephone comprising: … memory storing programming capable of ….wherein said remote system is located remotely from said wireless telephone and said second wireless device, said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call, wherein said programming of said wireless telephone is further operable of providing a first map provided with respect to said location.” (claim 73)
- “said remote server” (claims 30, 83)
- Claim 15 is indefinite if the claimed method steps do not need to be performed in the order that the steps are recited. *See, e.g.*, *Mullen industries LLC v. Apple Inc.*, No. 5:23-cv-437-PCP, Dkt. 41, Apple’s Claim Construction Brief at 35-38 (explaining why the steps are otherwise impossible or cannot otherwise be determined with reasonable certainty).
- “A wireless telephone comprising: . . . a positioning system for determining a location of said wireless telephone” (claims 1, 15, 29, 42, 73)
- “programming is . . . capable of displaying . . .” / “programming is . . . capable of . . . displaying” (claims 1, 3-4, 10-13, 15-16, 24-27, 31-32, 37-40, 42, 53-54, 56-58, 60-61, 63, 68-71, 75, 79, 83, 88-91)
- “wherein said programming is further capable of displaying” (claims 3, 4, 16, 31, 53, 54, 56-58, 60, 61, 63, 75, 79, 83)
- “wherein said programming is further capable of receiving and displaying a location” (claims 24-27, 32, 37-40, 68-71, 88-91)
- “wherein said programming is further capable of downloading from a remote system” (claims 14, 28, 41, 72, 92)

[redacted]

- "receiving a first manual input in a form of a selection of one of said plurality of users" (claim 15)
- "receiving an input in the form of a login and a second manual input in a form of a password" (claim 15)
- "wherein said programming is further capable of receiving a manual input for modifying said location access rights" (claim 17)
- "receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login" (claim 29)
- "selecting a location-based event that is based, at least in part, on a location of a second wireless telephone, wherein said location-based event is operable to be manually pre-selected from a list of at least three types of location-based events" (claim 29)
- "location-based event is operable to be manually pre-selected" (claim 29)
- "receiving . . . as a result of, at least in part" (claim 29)
- "as a result of, at least in part, location access rights" (claim 29)
- "at least in part, region-based" (claim 29)
- "at least in part, distance-based" (claim 29)
- "device is requested by receiving input" (claim 52)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '117 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "wherein said programming is further capable of displaying" (claims 3, 4, 16, 31, 53, 54, 56-58, 60, 61, 63, 75, 79, 83)
- "wherein said programming is further capable of receiving and displaying a location" (claims 24-27, 32, 37-40, 68-71, 88-91)
- "wherein said programming is further capable of downloading from a remote system" (claims 14, 28, 41, 72, 92)

- "receiving a first manual input in a form of a selection of one of said plurality of users" (claim 15)
- "receiving an input in the form of a login and a second manual input in a form of a password" (claim 15)
- "wherein said programming is further capable of receiving a manual input for modifying said location access rights" (claim 17)
- "receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login" (claim 29)
- "location-based event is operable to be manually pre-selected" (claim 29)
- "displaying on said wireless telephone an option to request location access rights" (claim 42)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '117 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "wherein said programming is further capable of displaying" (claims 3, 4, 16, 31, 53, 54, 56-58, 60, 61, 63, 75, 79, 83)
- "wherein said programming is further capable of receiving and displaying a location" (claims 24-27, 32, 37-40, 68-71, 88-91)
- "wherein said programming is further capable of downloading from a remote system" (claims 14, 28, 41, 72, 92)
- "receiving a first manual input in a form of a selection of one of said plurality of users" (claim 15)
- "receiving an input in the form of a login and a second manual input in a form of a password" (claim 15)
- "wherein said programming is further capable of receiving a manual input for modifying said location access rights" (claim 17)
- "receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login" (claim 29)

- "location-based event is operable to be manually pre-selected" (claim 29)
- "displaying on said wireless telephone an option to request location access rights" (claim 42)

IX. '024 PATENT

A. Priority Date

The application for the '024 Patent was filed on filed on August 20, 2007, claiming priority to U.S. Provisional Application No. 60/367,967, which was filed on March 25, 2002. Mullen claims a priority date of March 25, 2002 in its Infringement Contentions for the '024 Asserted Claims, which is the filing date of Provisional Application No. 60/367,967 ('967 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. The disclosures contained in the '967 Provisional are substantially different from the specification of the '024 Patent, as numerous elements of the '024 Patent specification and figures are absent from the '967 Provisional. Mullen has yet to provide any explanation of how the disclosures of the '967 Provisional provide written description for the '024 Asserted Claims.

In view of the substantial differences between the disclosures, the '024 Asserted Claims cannot claim priority to the '967 Provisional. For example, the '967 Provisional lacks written description support for at least the following claim limitations in the independent claims:

- "a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of" (claims 1, 24)
- "changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location,

[redacted]

wherein each user of said list of users is representative of one of a plurality of wireless telephones" (claim 1)

- "transmitting said location to at least one of said users of said list of users over said communications network" (claim 1)
- "determining a second location associated with one of said plurality of wireless telephones" (claim 1)
- "providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location" (claim 1)
- "receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones" (claim 24)
- "determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users, wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephone" (claim 24)
- "determining whether said user of said first wireless telephone has assigned location access rights to said one of said plurality of wireless telephones associated

[redacted]

with said selected one of said plurality of users for obtaining a location of said first wireless telephone" (claim 24)

- "transmitting over said communications network said location information to said first wireless telephone" (claim 24)
- "a remote system comprising a server, the remote system capable of communicating with a first wireless device and a second wireless device over a communications network and further capable of" (claim 45)
- "receiving a request for a location of said first wireless device from said second wireless device" (claim 45)
- "determining that said second wireless device does not have location access rights for said first wireless device" (claim 45)
- "after determining that said second wireless device does not have said location access rights for said first wireless device, receiving a request from said second wireless device that said location access rights be assigned for said second wireless device by said first wireless device" (claim 45)
- "receiving from said first wireless device an assignment of said location access rights for said first wireless device to said second wireless device" (claim 45)
- "storing said location access rights" (claim 45)
- "providing said location to said second wireless device dependent upon said location access rights" (claim 45)

The list of limitations absent from the '967 Provisional is exemplary; Samsung reserves the right to supplement its contentions regarding the priority date of the '024 Asserted Claims, after Mullen identifies the basis for its claims of priority, and/or during expert discovery.

For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the ’024 Patent is March 25, 2002, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to the extent additional facts are presented to indicate that the ’024 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the ’024 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen’s apparent interpretation of the claims. References that are marked with an asterisk (“*”) are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the ’024 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits H1 through H26. To the extent Mullen contends that any of these references are not enabling, then the ’024 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
H1*	US 2004/0024846 (Randall)	United States	August 22, 2001	February 5, 2004
H2*	US 2003/0023726 (Rice)	United States	February 14, 2002	January 30, 2003
H3*	US 2002/0145561 (Sandhu)	United States	April 9, 2001	October 10, 2002
H4	US 6,716,101 (Meadows)	United States	June 28, 2000	April 6, 2004
H5*	US 6,754,665 (Futagami)	Japan	June 13, 2000	June 22, 2004
H6*	US 6,133,853 (Obradovich)	United States	July 30, 1998	October 17, 2000
H7*	US 7,333,820 (Sheha)	United States	July 11, 2002	January 23, 2003
H8*	US 7,130,630 (Enzmann)	United States	December 19, 2000	October 31, 2006

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
H9*	US 6,560,461 (Fomukong)	United States	March 8, 1999	May 6, 2003
H10 *	US 2003/0060212 (Thomas)	United States	February 28, 2001	March 27, 2003
H11 *	US No. 6,968,179 (De Vries)	United States	July 27, 2000	November 22, 2005
H12 *	US 6,920,328 (Wollrab)	United States	August 30, 2001	March 6, 2003
H13 *	JPH08-005394 (Ozaki)	Japan	June 21, 1994	January 12, 1996
H14	KR 2001/0091381 (Han)	Korea	March 15, 2000	October 23, 2001
H15	US 7,233,795 (Ryden)	United States	March 19, 2002	June 19, 2007
H16	US 6,819,919 (Tanaka)	United States	October 18, 2000	November 16, 2004
H17 *	US 7,039,427 (Tachikawa)	United States	May 28, 2002	December 5, 2002
H18	WO 0022860A1 (Degnbol)	Denmark	October 12, 1999	April 20, 2000
H19	US 2002/0070881 (Marcarelli)	United States	October 12, 2001	June 13, 2002
H20 *	US 6,714,791 (Friedman)	United States	February 23, 2001	August 29, 2002
H21	US 6,553,236 (Dunko)	United States	March 28, 2000	April 22, 2003
H22	JP 2002/010321 (Okubo)	Japan	June 20, 2000	January 11, 2002
H23	US 2002/0069312 (Jones)	United States	July 3, 2001	June 6, 2002
H24	WO 2001/091486 (Darling)	Great Britain	May 22, 2001	November 29, 2001
H25	US 6,167,277 (Kawamoto)	United States	December 23, 1996	December 26, 2000
H26	US 7,284,033 (Jhanji)	United States	December 13, 2000	July 3, 2003

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Systems

Samsung identifies the following systems that are prior art to the '024 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits H27-H30. The following systems anticipate or render obvious each of the '024 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Qualcomm's gpsOne™ system ("gpsOne"). gpsOne qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than November 18, 1999, or (2) reduced to practice in the United States no later than November 18, 1999 without being abandoned, suppressed, or concealed. To support gpsOne's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit H27.
    a. S*napTrack Announces Commercial Availability of SnapWARN Global Positioning Satellite Data Feed to Support gpsOne-based E911 Wireless Location Systems for Cell Phone Safety*, Qualcomm (Oct. 7, 2001), https://www.qualcomm.com/news/releases/2001/10/snaptrack-announces-commercial-availability-snapwarn-global-positioning ("SnapTrack").
    b. *Qualcomm Announces Mobile-Based Capability for gpsOne Technology*, Qualcomm (Jan. 15, 2002), https://www.qualcomm.com/news/releases/2002/01/qualcomm-announces-mobile-based-capability-gpsone-technology ("Mobile-Based Capability for gpsOne").
    c. *Qualcomm Announces Over One Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (May 7, 2002), https://www.qualcomm.com/news/releases/2002/05/qualcomm-announces-over-one-million-subscribers-served-gpsone-enabled ("Over One Million Subscribers").
    d. *Qualcomm Announces More Than Five Million Subscribers Served by gpsOne-Enabled Devices*, Qualcomm (Nov. 17, 2002), https://www.qualcomm.com/news/releases/2002/11/qualcomm-announces-more-five-million-subscribers-served-gpsone-enabled ("Five Million Subscribers").
    e. *Qualcomm Congratulates Hutchison CAT for the First Launch of gpsOne™-Enabled Consumer Mobile Phone Location Services in Southeast Asia*, Qualcomm (Jan. 27, 2004),

[redacted]

https://www.qualcomm.com/news/releases/2004/01/qualcomm-congratulates-hutchison-cat-first-launch-gpsone-enabled-consumer ("Hutchison").

f. WO 2000/029868 ("Soliman"), published May 25, 2000, and filed Nov. 18, 1999
g. Samir Soliman et al., *gpsOne™: A Hybrid Position Location System, 2000 IEEE Sixth International Symposium on Spread Spectrum Techniques and Applications* ("Soliman Publication")
h. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution*, PR Newswire Europe (Oct. 10, 1999)
i. *Qualcomm CDMA Technologies Announces Development of gpsOne Global Position Location Technology Solution; Integrated CDMA Chipset and Software Solution Under Development to Meet Future Market Demand for Position Location Services*, PR Newswire (Oct. 11, 1999, 1:02 ET)
j. *Qualcomm Debuts Multimedia Chipset*, Radio Comm. Report (Feb. 28, 2000)
k. *Qualcomm Previews Wireless Location Chips*, Global Positioning & Navigation News (Feb. 23, 2000)
l. *Qualcomm Unveils Devt Plans For Mobile Station Modem Pdts*, Dow Jones News Service (Oct. 11, 1999, 7:07 PM GMT)

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Samsung's SP(C)H-N300 system ("SP(C)H-N300"). SP(C)H-N300 qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than October 2001, or (2) reduced to practice in the United States no later than October 2001, without being abandoned, suppressed, or concealed. To support SP(C)H-N300's substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit H28.
   a. *First GPS Phone is Unveiled*, Deseret News (Salt Lake City) (Oct. 3, 2001)
   b. David Carnoy, *Samsung SPH-N Review: Samsung SPH-N*, CNET (Nov. 6, 2002, 2:22 AM PT)
   c. *Sprint and Samsung Telecommunications America Launch America's First GPS-Enabled Wireless Phone, The Spring PCS SPH-N300; The Spring PCS SPH-N300 by Samsung Delivers Today's Best Wireless Features And Is Designed to Support Location-Based and E911 Services of the Future*, PR Newswire (Oct. 1, 2001)
   d. Steve Gold, *Sprint PCS Launches GPS, Palm-Powered Mobile Phones*, Newsbytes (Oct. 4, 2001)
   e. Bob Brewin, *Sprint Debuts Mobile Phone with GPS for 911 Calls*, CNN (Oct. 2, 2001, 9:33 am EDT), https://www.cnn.com/2001/TECH/ptech/10/02/sprint.gps.phone.idg/

[redacted]

f. *Samsung SPH/SCH-N300*, PhoneScoop, https://www.phonescoop.com/phones/phone.php?p=20 (last visited July 17, 2024)
g. *Verizon Wireless Launches GPS-Enabled Wireless Phone To Support E-911 Services*, Verizon News Archives (Dec. 27, 2001), https://www.verizon.com/about/news/vzw/2001/12/pr2001-12-27
h. Sprint PCS SPH-N300 User Manual, Sprint
i. Samsung SPH-N300 User Manual, Samsung
j. Peter Loftus, *In Case of Emergency.....Dial 911 and The Police Will Know Where You Are. At Least, That's The Theory*, Wall Street J. (Sept. 23, 2002, 12:01 am ET), https://www.wsj.com/articles/SB1032365251607235515

3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Benefon's Esc!* system ("Benefon Esc!"). Benefon Esc! qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than August 2002, or (2) reduced to practice in the United States no later than August 2002, without being abandoned, suppressed, or concealed. To support Benefon Esc!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit H29.
   a. *Benefon and Genimap to Launch World's First Personal Navigation Phone with Mobile Maps*, PR Newswire (Mar. 22, 2001)
   b. *Benefon Introduces World's First GSM+GPS Personal Navigation Phone, the Benefon Esc!*, PR Newswire Europe (Oct. 8, 1999)
   c. *Finnish Phone Maker Intros GPS/GSM Navigation Phone*, Global Positioning & Navigation News (Oct. 20, 1999)
   d. Martin Skegg & Michael Oliveira-Salac, *More Than Words; It May Be Good to Talk, But Why Stop There? Mobile Phones Can Play Music, or Even Help You Navigate The Globe*, Independent (London) (July 1, 2000)
   e. *Wireless Telephones with Integrated GPS Debuts In Europe*, Global Positioning & Navigation News (Aug. 8, 2001)
   f. *Control & Safety for Mobile Professionals*, Benefon (Apr. 1, 2003), https://web.archive.org/web/20030401221610/http:/benefon.com/usa/
   g. *Benefon and Airo Wireless Media Announce North American Distribution Deal*, Benefon (Mar. 19, 2002, 11:15), https://web.archive.org/web/20020418052222/http:/www.benefon.com/eng/press/2002/190302_b.htm
   h. Benefon Esc! Full Phone Specifications, GSM Arena, https://www.gsmarena.com/benefon_esc!-44.php (last visited July 17, 2024)
   i. Benefon Esc! Owner's Manual, Benefon Oyj (2002)

4. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to CellPoint System's Finder!* system ("CellPoint Finder!"). CellPoint Finder! qualifies as prior art

under § 102 because it was either (1) in public use or on sale in the United States no later than June 25, 2001, or (2) reduced to practice in the United States no later than June 25, 2001, without being abandoned, suppressed, or concealed. To support CellPoint Finder!'s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit H30.

a. *CellPoint Announces Quarterly Results For The Six Months Ended December 31, 1999*, PR Newswire (Feb. 15, 2000)
b. *CellPoint Expands Location Technologies with Network-Based Solutions*, Business Wire (Sept. 19, 2000)
c. *GSM World Conference in Cannes Attracts More Than 14,000 Attendees; CellPoint's Finder! A Hit, Featured in PC World Online and CNN.com; GSM World Congress 2000*, Business Wire (Feb. 7, 2000)
d. *Welcome to CellPoint*, CellPoint (June 25, 2001), https://web.archive.org/web/20010625115501/http:/www.cellpt.com:80/finder.htm
e. Paul Heltzel, *Track Friends by Phone*, CNN (Feb. 4, 2000), https://www.cnn.com/2000/TECH/computing/02/04/phone_track.idg/index.html
f. *Yahoo! Europe and CellPoint Announce Person-to-Person Locator Service for Mobile Phones*, Cision News (May 4, 2000, 15:11 CET), https://news.cision.com/cellpoint-systems/r/yahoo--europe-and-cellpoint-announce-person-to-person-locator-service-for-mobile-phones,e22596

Samsung's investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section IX.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '024 Patent.

See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of mapping, location sharing, and location access rights. *See, e.g.*, Exhibits H1-H30. Each of the references further seeks to solve problems associated with mapping, location sharing, and location access rights, including allowing users to control the amount or precision of location information shared, who is permitted access to location information, how users can authenticate their identities, how to alert users of their location or their arrival at a location, and how to display a map with location information of others, including the graphical and textual display of distances, addresses, travel times, and directions.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the Asserted Patents.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the ’024 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section IX.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the ’024 Asserted Claims. These identified combinations are exemplary, and Samsung reserves the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’024 Asserted Claims (hereinafter “Primary References”).

[redacted]

- Randall
- Rice
- Sandhu
- Friedman
- Futagami
- Obradovich
- Dunko
- Sheha
- Enzmann
- Fomukong
- Thomas
- De Vries
- Wollrab
- Ozaki
- Benefon Esc!
- CellPoint Finder!
- Tachikawa

3. Obviousness Of Receiving Login and Password Information

The ’024 Asserted Claims recite limitations relating to receiving login and password information. For example, these limitations appear in the following claims:

- Claim 15: “wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website ”
- Claim Element 24(d): “determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users, wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password and determining whether said selected one of said plurality of users has

[redacted]

provided access rights for said location information to said user of said first wireless telephone "

- Claim 26: "wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users"
- Claim 53: "wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users"
- Claim 70: "wherein said remote system is further capable of receiving a login and password from said second wireless device to identify a user of said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that receiving login and password information.

- Randall. *See* Ex. H1 at Claims 15, 24(d), 26, 53, and 70.
- Rice. *See* Ex. H2 at Claims 15, 24(d), 26, 53, and 70.
- Sandhu. *See* Ex. H3 at Claims 15, 24(d), 26, 53, and 70.
- Meadows. *See* Ex. H4 at Claims 15, 24(d), 26, 53, and 70.
- Futagami. *See* Ex. H5 at Claims 15, 24(d), 26, 53, and 70.
- Obradovich. *See* Ex. H6 at Claims 15, 24(d), 26, 53, and 70.
- Sheha. *See* Ex. H7 at Claims 15, 24(d), 26, 53, and 70.
- Enzmann. *See* Ex. H8 at Claims 15, 24(d), 26, 53, and 70.
- Thomas. *See* Ex. H10 at Claims 15, 24(d), 26, 53, and 70.
- Wollrab. *See* Ex. H12 at Claims 15, 24(d), 26, 53, and 70.
- Han. *See* Ex. H14 at Claims 15, 24(d), 26, 53, and 70.
- Tanaka. *See* Ex. H16 at Claims 15, 24(d), 26, 53, and 70.
- Tachikawa. *See* Ex. H17 at Claims 15, 24(d), 26, 53, and 70.
- Degnbol. *See* Ex. H18 at Claims 15, 24(d), 26, 53, and 70.
- Marcarelli. *See* Ex. H19 at Claims 15, 24(d), 26, 53, and 70.
- Friedman. *See* Ex. H20 at Claims 15, 24(d), 26, 53, and 70.
- Dunko. *See* Ex. H21 at Claims 15, 24(d), 26, 53, and 70.

- Okubo. *See* Ex. H22 at Claims 15, 24(d), 26, 53, and 70.
- Jhanji. *See* Ex. H26 at Claims 15, 24(d), 26, 53, and 70.
- Benefon Esc! *See* Ex. H29 at Claims 15, 24(d), 26, 53, and 70.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving login and password information for the reasons discussed above in Section III.C.3. In light of the disclosures discussed above in Section III.C.3, a PHOSITA would be motivated to modify any Primary Reference to include receiving login and password information to the extent not already disclosed by the Primary Reference.

4. Obviousness Of Making A Second Request for Location Access Rights If No Access Rights Were Determined

The '024 Asserted Claims recite limitations relating to making a second request for location access rights if no access rights were determined. For example, these limitations appear in the following claims:

- Claim Element 45(c): "determining that said second wireless device does not have location access rights for said first wireless device "
- Claim Element 45(d): "after determining that said second wireless device does not have said location access rights for said first wireless device, receiving a request from said second wireless device that said location access rights be assigned for said second wireless device by said first wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose making a second request for location access rights if no access rights were determined.

- Futagami. *See* Ex. H5 at Claim 45(d).
- Sheha. *See* Ex. H7 at Claim 45(d).
- Fomukong. *See* Ex. H9 at Claim 45(d).
- Thomas. *See* Ex. H10 at Claim 45(d).
- Tachikawa. *See* Ex. H17 at Claim 45(d).

- Friedman. *See* Ex. H20 at Claim 45(d).
- Darling. *See* Ex. H24 at Claim 45(d).
- gpsOne. *See* Ex. H27 at Claim 45(d).

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving making a second request for location access rights if no access rights were determined for the reasons discussed above in Section IV.C.6. In light of the disclosures discussed above in Section IV.C.6, a PHOSITA would be motivated to modify any Primary Reference to include making a second request for location access rights if no access rights were determined to the extent not already disclosed by the Primary Reference.

5. Obviousness Of Access Rights Including A Plurality of Levels

The ’024 Asserted Claims recite limitations relating to access rights including a plurality of levels. For example, these limitations appear in the following claims:

- Claim 48: “wherein said location access rights comprise a plurality of access levels”
- Claim 51: “wherein said location access rights comprise a plurality of levels of access rights, at least one of said plurality of levels of access rights comprise the exact location of said first wireless device, and another one of said plurality of levels of access rights comprise an approximate location of said first wireless device”
- Claim 52: “wherein said access rights comprise a plurality of levels of access rights, at least one of said plurality of levels of access rights comprise an approximate location of said first wireless device, and said approximate location comprises a city or state”

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose access rights including a plurality of levels.

- Rice. *See* Ex. H2 at Claims 48, 51, and 52.
- Futagami. *See* Ex. H5 at Claims 48, 51, and 52.
- De Vries. *See* Ex. H11 at Claims 48, 51, and 52.
- Wollrab. *See* Ex. H12 at Claims 48, 51, and 52.
- Tanaka. *See* Ex. H16 at Claims 48, 51, and 52.
- Tachikawa. *See* Ex. H17 at Claims 48, 51, and 52.
- Degnbol. *See* Ex. H18 at Claims 48, 51, and 52.
- Friedman. *See* Ex. H20 at Claims 48, 51, and 52.
- Dunko. *See* Ex. H21 at Claims 48, 51, and 52.
- Jhanji. *See* Ex. H26 at Claims 48, 51, and 52.
- SP(C)H-N300. *See* Ex. H28 at Claims 48, 51, and 52.
- Benefon Esc! *See* Ex. H29 at Claims 48, 51, and 52.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing access rights including a plurality of levels for the reasons discussed above in Section IV.C.7. In light of the disclosures discussed above in Section IV.C.7, a PHOSITA would be motivated to modify any Primary Reference to include access rights including a plurality of levels to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Modifying/Changing Access Rights

The ’024 Asserted Claims recite limitations relating to modifying/changing access rights. For example, these limitations appear in the following claims:

- Claim Element 1[c]: “changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones”

[redacted]

- Claim 2: "wherein said changing comprises adding an additional user to said list of users"
- Claim 25: "wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones"
- Claim Element 45(e): "receiving from said first wireless device an assignment of said location access rights for said first wireless device to said second wireless device"
- Claim Element 45(f): "storing said location access rights"
- Claim 54: "receiving a request from said first wireless device to modify said location access rights for said second wireless device; and modifying said location access rights for said second wireless device based on said request"
- Claim 55: "receiving a request from said first wireless device to delte [sic] said location access rights for said second wireless device; and deleting said location access rights for said second wireless device based on said request"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose modifying/changing access rights.

- Randall. *See* Ex. H1 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Rice. *See* Ex. H2 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Sandhu. *See* Ex. H3 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Friedman. *See* Ex. H24 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Futagami. *See* Ex. H5 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Sheha. *See* Ex. H7 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Enzmann. *See* Ex. H8 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Fomukong. *See* Ex. H9 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.

- Thomas. *See* Ex. H10 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- De Vries. *See* Ex. H11 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Tanaka. *See* Ex. H16 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Tachikawa. *See* Ex. H17 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Degnbol. *See* Ex. H18 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Jhanji. *See* Ex. H26 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- SP(C)H-N300. *See* Ex. H28 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- Benefon Esc! *See* Ex. H29 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.
- CellPoint Finder! *See* Ex. H30 at Claims 1(c), 2, 25, 45(e), 45(f), 54, and 55.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing modifying/changing access rights for the reasons discussed above in Section II.C.3. In light of the disclosures discussed above in Section II.C.3, a PHOSITA would be motivated to modify any Primary Reference to include modifying/changing access rights to the extent not already disclosed by the Primary Reference.

7. Obviousness Of Limiting Location Access Rights to a Specific Period of Time

The ’024 Asserted Claims recite limitations relating to limiting location access rights to a specific period of time. For example, these limitations appear in the following claims:

- Claim 6: “wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time”
- Claim 7: “wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time”
- Claim 8: “wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone”

- Claim 27: "wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time"
- Claim 28: "wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time"
- Claim 29: "wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones"
- Claim 56: "wherein said remote system is further capable of filtering information about said location such that only a portion of location information associated with said location is transmitted to said second wireless device"
- Claim 61: "wherein said storing said location access rights comprises storing location access rights that allow a user of said second wireless device to access said location of said first wireless device for an indefinite period of time"
- Claim 62: "wherein said storing said location access rights comprises storing location access rights that allow a user of said second wireless device to access said location of said first wireless device for only a specific period of time"
- Claim 63: "wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose limiting location access rights to a specific period of time.

- Randall. *See* Ex. H1 at Claims 6-8, 27-29, 56, and 61-63.
- Rice. *See* Ex. H2 at Claims 6-8, 27-29, 56, and 61-63.
- Thomas. *See* Ex. H10 at Claims 6-8, 27-29, 56, and 61-63.
- De Vries. *See* Ex. H11 at Claims 6-8, 27-29, 56, and 61-63.
- Tachikawa. *See* Ex. H17 at Claims 6-8, 27-29, 56, and 61-63.
- Degnbol. *See* Ex. H18 at Claims 6-8, 27-29, 56, and 61-63.
- Jhanji. *See* Ex. H26 at Claims 6-8, 27-29, 56, and 61-63.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing limiting location access rights to a specific period of time for the reasons discussed above in Section IV.C.10. In light of the disclosures discussed above in Section IV.C.10, a PHOSITA would be motivated to modify any Primary Reference to include limiting location access rights to a specific period of time to the extent not already disclosed by the Primary Reference.

8. Obviousness Of Location Access Rights Is Provided to the Second Device Even When the First Device Is Off

The ’024 Asserted Claims recite limitations relating to location access rights is provided to the second device even when the first device is off. For example, these limitations appear in the following claims:

- Claim 14: “wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off”
- Claim 35: “wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off”

[redacted]

- Claim 47: "wherein said location access rights include the ability to obtain said location, wherein said location is provided to said second wireless device from said server even when said first wireless device is off"
- Claim 69: "wherein said providing said location to said second wireless device comprises providing to said second wireless device a location from said history of locations when said first wireless device is turned off"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose location access rights is provided to the second device even when the first device is off.

- Rice. *See* Ex. H1 at Claims 14, 35, 47, and 69.
- Obradovich. *See* Ex. H6 at Claims 14, 35, 47, and 69.
- Fomukong. *See* Ex. H9 at Claims 14, 35, 47, and 69.
- Thomas. *See* Ex. H10 at Claims 14, 35, 47, and 69.
- Wollrab. *See* Ex. H12 at Claims 14, 35, 47, and 69.
- Ryden. *See* Ex. H15 at Claims 14, 35, 47, and 69.
- Friedman. *See* Ex. H20 at Claims 14, 35, 47, and 69.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing location access rights is provided to the second device even when the first device is off for the reasons discussed above in Section IV.C.11. In light of the disclosures discussed above in Section IV.C.11, a PHOSITA would be motivated to modify any Primary Reference to include location access rights is provided to the second device even when the first device is off to the extent not already disclosed by the Primary Reference.

9. Obviousness Of Receiving And Displaying The Location Of Other Types Of Devices

The '024 Asserted Claims recite limitations relating to receiving and displaying the location of other types of devices. For example, these limitations appear in the following claims:

[redacted]

- Claim 16: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch"
- Claim 17: "wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch"
- Claim 18: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer"
- Claim 19: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio"
- Claim 20: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car"
- Claim 37: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch"
- Claim 39: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer"
- Claim 40: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio"
- Claim 41: "wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car"
- Claim 71: "wherein said remote system is further capable of storing and transmitting to said second wireless device a location of a watch"
- Claim 73: "wherein said remote system is further capable of storing and transmitting to said second wireless device a location of a personal computer"

- Claim 74: "wherein said remote system is further capable of storing and transmitting to said second wireless device a location of a radio"
- Claim 75: "wherein said remote system is further capable of storing and transmitting to said second wireless device a location of a car"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving and displaying the location of other types of devices.

- Rice. *See* Ex. H2 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Sandhu. *See* Ex. H3 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Meadows. *See* Ex. H4 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Obradovich. *See* Ex. H6 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Thomas. *See* Ex. H10 at Claims 16-20, 37, 39-41, 71, and 73-75.
- De Vries. *See* Ex. H11 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Wollrab. *See* Ex. H12 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Ozaki. *See* Ex. H13 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Han. *See* Ex. H14 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Ryden. *See* Ex. H15 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Tanaka. *See* Ex. H16 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Tachikawa. *See* Ex. H17 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Degnbol. *See* Ex. H18 at Claims 16-20, 37, 39-41, 71, and 73-75.
- Jhanji. *See* Ex. H26 at Claims 16-20, 37, 39-41, 71, and 73-75.
- gpsOne. *See* Ex. H27 at Claims 16-20, 37, 39-41, 71, and 73-75.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving and displaying the location of other types of devices for the reasons discussed above in Section VIII.C.10. In light of the disclosures discussed above in Section VIII.C.10, a PHOSITA would be motivated to modify any Primary Reference to include receiving and displaying the location of other types of devices to the extent not already disclosed by the Primary Reference.

[redacted]

10. Obviousness Of Providing/Displaying Directions, Distance, or Time to Travel

The ’024 Asserted Claims recite limitations relating to providing/displaying directions, distance, or time to travel. For example, these limitations appear in the following claims:

- Claim Element 1(f): “providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location”
- Claim 5: “where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones”
- Claim 49: “wherein said remote system is further capable of providing to said second wireless device directions from a location of said second wireless device to said location of said first wireless device”
- Claim 50: “wherein said remote system is further capable of providing to said second wireless device a travel time to said location”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying directions, distance, or time to travel.

- Rice. *See* Ex. H2 at Claims 1(f), 5, 49, and 50.
- Obradovich. *See* Ex. H6 at Claims 1(f), 5, 49, and 50.
- Sheha. *See* Ex. H7 at Claims 1(f), 5, 49, and 50.
- Ryden. *See* Ex. H15 at Claims 1(f), 5, 49, and 50.
- Tachikawa. *See* Ex. H17 at Claims 1(f), 5, 49, and 50.
- Degnbol. *See* Ex. H18 at Claims 1(f), 5, 49, and 50.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing providing/displaying directions, distance, or

time to travel for the reasons discussed above in Section II.C.4. In light of the disclosures discussed above in Section II.C.4, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying directions, distance, or time to travel to the extent not already disclosed by the Primary Reference.

11. Obviousness Of Providing/Displaying Directions/Time To Travel Based on Type of Travel

The ’024 Asserted Claims recite limitations relating to providing/displaying directions/time to travel based on type of travel. For example, these limitations appear in the following claims:

- Claim 22: “wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving”
- Claim 43: “wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving”
- Claim 77: “wherein said remote system is further capable of providing to said second wireless device information indicating time to reach said location of said first wireless device from a second location of said second wireless device according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving”

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose providing/displaying directions/time to travel based on type of travel.

- Sandhu. *See* Ex. H3 at Claims 22, 43, and 77.
- Meadows. *See* Ex. H4 at Claims 22, 43, and 77.
- Obradovich. *See* Ex. H6 at Claims 22, 43, and 77.
- Wollrab. *See* Ex. H12 at Claims 22, 43, and 77.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving providing/displaying directions/time to travel based on type of travel for the reasons discussed above in Section VIII.C.12. In light of the disclosures discussed above in Section VIII.C.12, a PHOSITA would be motivated to modify any Primary Reference to include providing/displaying directions/time to travel based on type of travel to the extent not already disclosed by the Primary Reference.

12. Obviousness Of Receiving A Request For The Remote Server/System To Transmit Location-Based Event Notifications

The ’024 Asserted Claims recite limitations relating to receiving a request for the remote server/system to transmit location-based event notifications. For example, these limitations appear in the following claims:

- Claim 9: “wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone”
- Claim 10: “wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones”
- Claim 31: “wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone”

- Claim 60: "wherein said remote system is further capable of setting at least one location alert associated with said first wireless device for a user associated with said second wireless device in response to a request from said second wireless device"
- Claim 65: "wherein said remote system is further capable of receiving a request for said alert from said second wireless device"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving a request for the remote server/system to transmit location-based event notifications.

- Rice. *See* Ex. H2 at Claims 9, 10, 31, and 60.
- Obradovich. *See* Ex. H6 at Claims 9, 10, 31, and 60.
- Thomas. *See* Ex. H10 at Claims 9, 10, 31, and 60.
- Degnbol. *See* Ex. H18 at Claims 9, 10, 31, and 60.
- Friedman. *See* Ex. H20 at Claims 9, 10, 31, and 60.
- Dunko. *See* Ex. H21 at Claims 9, 10, 31, and 60.
- Okubo. *See* Ex. H22 at Claims 9, 10, 31, and 60.
- Jhanji. *See* Ex. H26 at Claims 9, 10, 31, and 60.
- Benefon Esc! *See* Ex. H29 at Claims 9, 10, 31, and 60.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving a request for the remote server/system to transmit location-based event notifications for the reasons discussed above in Section VIII.C.13. In light of the disclosures discussed above in Section VIII.C.13, a PHOSITA would be motivated to modify any Primary Reference to include receiving a request for the remote server/system to transmit location-based event notifications information to the extent not already disclosed by the Primary Reference.

[redacted]

13. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Location of Another Device

The ’024 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on location of another device. For example, these limitations appear in the following claims:

- Claim 12: “wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone”
- Claim 30: “wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones”
- Claim 33: “wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones”
- Claim 64: “wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones”
- Claim 67: “wherein said remote system is further capable of transmitting an alert to said first wireless device when said second wireless device locates said first wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on location of another device.

- Rice. *See* Ex. H2 at Claims 12, 30, 33, 64, and 67.

- Sandhu. *See* Ex. H3 at Claims 12, 30, 33, 64, and 67.
- Obradovich. *See* Ex. H6 at Claims 12, 30, 33, 64, and 67.
- Dunko. *See* Ex. H25 at Claims 12, 30, 33, 64, and 67.
- Fomukong. *See* Ex. H9 at Claims 12, 30, 33, 64, and 67.
- Thomas. *See* Ex. H10 at Claims 12, 30, 33, 64, and 67.
- De Vries. *See* Ex. H11 at Claims 12, 30, 33, 64, and 67.
- Wollrab. *See* Ex. H12 at Claims 12, 30, 33, 64, and 67.
- Degnbol. *See* Ex. H18 at Claims 12, 30, 33, 64, and 67.
- Friedman. *See* Ex. H20 at Claims 12, 30, 33, 64, and 67.
- Jhanji. *See* Ex. H26 at Claims 12, 30, 33, 64, and 67.
- Benefon Esc! *See* Ex. H29 at Claims 12, 30, 33, 64, and 67.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on location of another device for the reasons discussed above in Section IV.C.15. In light of the disclosures discussed above in Section IV.C.15, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on location of another device to the extent not already disclosed by the Primary Reference.

14. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Distance

The ’024 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on distance. For example, these limitations appear in the following claims:

- Claim 57: “wherein said remote system is further capable of alerting said second wireless device when said first wireless device is within a distance of second wireless device”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on distance.

- Sandhu. *See* Ex. H3 at Claim 57.
- Thomas. *See* Ex. H10 at Claim 57.
- De Vries. *See* Ex. H11 at Claim 57.
- Wollrab. *See* Ex. H12 at Claim 57.
- Tanaka. *See* Ex. H16 at Claim 57.
- Degnbol. *See* Ex. H18 at Claim 57.
- Friedman. *See* Ex. H20 at Claim 57.
- Dunko. *See* Ex. H21 at Claim 57.
- Jhanji. *See* Ex. H26 at Claim 57.
- Benefon Esc! *See* Ex. H29 at Claim 57.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing receiving transmitting/receiving location-based event notifications based on distance for the reasons discussed above in Section IV.C.16. In light of the disclosures discussed above in Section IV.C.16, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on distance to the extent not already disclosed by the Primary Reference.

15. Obviousness Of Transmitting/Receiving Location-Based Event Notifications Based on Region

The ’024 Asserted Claims recite limitations relating to transmitting/receiving location-based event notifications based on region. For example, these limitations appear in the following claims:

- Claim 11: “wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones”
- Claim 32: “wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one

[redacted]

of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone"

- Claim 66: "wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose transmitting/receiving location-based event notifications based on region.

- Rice. *See* Ex. H2 at Claims 11, 32, and 66.
- Sandhu. *See* Ex. H3 at Claims 11, 32, and 66.
- Dunko. *See* Ex. H25 at Claims 11, 32, and 66.
- Fomukong. *See* Ex. H9 at Claims 11, 32, and 66.
- Thomas. *See* Ex. H10 at Claims 11, 32, and 66.
- De Vries. *See* Ex. H11 at Claims 11, 32, and 66.
- Wollrab. *See* Ex. H12 at Claims 11, 32, and 66.
- Tanaka. *See* Ex. H16 at Claims 11, 32, and 66.
- Degnbol. *See* Ex. H18 at Claims 11, 32, and 66.
- Friedman. *See* Ex. H20 at Claims 11, 32, and 66.
- Jhanji. *See* Ex. H26 at Claims 11, 32, and 66.

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing transmitting/receiving location-based event notifications based on region for the reasons discussed above in Section IV.C.17. In light of the disclosures discussed above in Section IV.C.17, a PHOSITA would be motivated to modify any Primary Reference to include transmitting/receiving location-based event notifications based on region to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

[redacted]

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the '575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the '024 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The '024 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- Claim 1 is indefinite as a mixed method and apparatus claim.
- "after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website" (claim 15)
- " A system comprising:. . .receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone . . ." (claim 24)
- "receiving a request from said first wireless device to delte [sic] said location access rights for said second wireless device" (claim 55)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '024 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference

[redacted]

fail to provide an enabling disclosure of at least the following claim limitations:

- "after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website" (claim 15)
- "receiving a request from said first wireless device to delte [sic] said location access rights for said second wireless device" (claim 55)
- "storing a phone book corresponding to a user of said first wireless telephone" (claims 23, 44, 78)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '024 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website" (claim 15)
- "receiving a request from said first wireless device to delte [sic] said location access rights for said second wireless device" (claim 55)
- "storing a phone book corresponding to a user of said first wireless telephone" (claims 23, 44, 78)

X. '633 PATENT

A. Priority Date

The application for the '633 Patent was filed on February 4, 2014. Mullen claims a priority date of March 14, 2003 in its Infringement Contentions for the '633 Asserted Claims, which is the filing date of Provisional Application No. 60/455,218 ('218 Provisional). However, Mullen bears a burden of production to show entitlement to an earlier priority date, and Mullen has not met that burden of production. For the purpose of these Invalidity Contentions only, Samsung has assumed that the priority date of the '633 Patent is March 14, 2003, the date asserted by Mullen in its Infringement Contentions. Samsung reserves the right to supplement its Invalidity Contentions to

the extent additional facts are presented to indicate that the ’633 Patent is entitled to a different priority date.

B. Prior Art References

Samsung identifies the following prior art now known to Samsung to anticipate or render obvious the ’633 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e) and/or (g), either expressly or inherently as understood by a PHOSITA, or based on Mullen’s apparent interpretation of the claims. References that are marked with an asterisk (“*”) are anticipatory.

1. Prior Art Patents and Patent Publications

The following patents and publications are prior art for the ’633 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g). Invalidity claim charts for these references are attached as Exhibits I1 through I14, I19. To the extent Mullen contends that any of these references are not enabling, then the ’633 Asserted Claims are invalid for lack of enablement.

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
I1	US 2001/0037355 (Britt)	United States	March 9, 2001	November 1, 2001
I2*	US 2002/0137552 (Cannon)	United States	March 20, 2001	September 26, 2002
I3*	US 2002/0115478 (Fujisawa)	Japan	June 21, 2001	August 22, 2002
I4*	US 5,878,354 (Hasegawa)	Japan	March 23, 1995	March 2, 1999
I5*	US 6,993,363 (Hsu)	United States	December 19, 2002	January 31, 2006
I6*	JP 2002/125039 (Kita-039)	Japan	October 16, 2000	April 26, 2002
I7	JP 2002/0335567 (Kazuhiro)	Japan	May 8, 2001	November 22, 2002
I19*	US 2001/0043514 (Kita-514)	United States	May 15, 2001	November 22, 2001
I8	JP 2002/223475 (Nakatake)	Japan	January 25,	August 9, 2002

[redacted]

Ex.	Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
			2001	
I9*	US 6,477,117 (Narayanaswami)	United States	June 30, 2000	November 5, 2002
I10*	US 6,525,997 (Narayanaswami-997)	United States	June 30, 2000	February 25, 2003
I11	US 6,661,438 (Shiraishi)	United States	January 18, 2000	December 9, 2003
I12	JP 3,078,398 (Takeshi)	Japan	January 21, 2000	July 10, 2001
I13	US 2002/0168990 (Valade)	United States	May 13, 2002	November 14, 2002
I14*	US 7,030,837 (Vong)	United States	April 24, 2000	April 18, 2006

Samsung's investigation into prior art patent and patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional patent or publication references.

2. Prior Art Non-Patent Publications

The following non-patent publications are prior art for the '633 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits I15. To the extent Mullen contends that any of these references are not enabling, then the '633 Asserted Claims are invalid for lack of enablement.

Ex.	Title	Author/Publisher	Date of Publication
I15	Nokia 8890 User Guide	Nokia Corp.	2002

Samsung's investigation into prior art non-patent publication references remains ongoing, and Samsung reserves the right to identify and rely upon additional non-patent publication references.

[redacted]

3. Prior Art Systems

Samsung identifies the following systems that are prior art to the ’633 Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Invalidity claim charts for these references are attached as Exhibits I16-I18. The following systems anticipate or render obvious each of the ’633 Asserted Claims.

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Casio VCL-100, -101 “VIVCEL” watch (“Casio VIVCEL Watch”). Casio VIVCEL Watch qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than the priority date of the ’633 Patent or (2) reduced to practice in the United States no later than the priority date of the ’633 Patent without being abandoned, suppressed, or concealed. To support Casio VIVCEL Watch’s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit I16
2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the IBM Linux Watch. IBM Linux Watch qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than the priority date of the ’633 Patent or (2) reduced to practice in the United States no later than the priority date of the ’633 Patent without being abandoned, suppressed, or concealed. To support IBM Linux Watch’s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit I17.
3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the IBM WatchPad. IBM WatchPad qualifies as prior art under § 102 because it was either (1) in public use or on sale in the United States no later than the priority date of the ’633 Patent or (2) reduced to practice in the United States no later than the priority date of the ’633 Patent without being abandoned, suppressed, or concealed. To support IBM WatchPad’s substantive disclosures and status as prior art, Samsung identifies each of the references listed in Exhibit I18.

Samsung’s investigation and discovery for prior art systems remains ongoing, and Samsung reserves the right to identify and rely upon additional prior art system references. In addition, Samsung hereby discloses all prior art systems that are described in the patent and publication prior art listed above or that were developed, sold, or manufactured by the assignees or authors of the patent and publication references above.

[redacted]

C. Obviousness

1. Legal Background And Motivation To Combine

No showing of a specific motivation to combine prior art is required to combine the references disclosed in Section X.B and in the attached charts, as each combination of art would have yielded expected results and at most would simply represent a known alternative to one of skill in the art. Samsung incorporates by reference the discussion of "Motivation to Combine" for the '575 Patent as if fully set forth herein, as that discussion applies equally to the '633 Patent. See Section II.C.1.

Moreover, combining the references disclosed in the attached Exhibits would have been obvious, as the references all are in the same technical field and concern the same subject matter of remote notifications for computing and/or communication devices. *See, e.g.*, Exhibits I1-I19. Each of the references further seeks to solve problems associated with remote notifications for computing and/or communication devices, including various methods of realizing the remote notifications, various events to trigger the remote notifications, and various devices capable of the remote notifications.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions motivations to combine discussed in any IPR or reexamination proceedings concerning the '633 Patent.

Below is a listing of primary references and other references with which they could be combined, the combination of which would render obvious the '633 Asserted Claims. In addition to the exemplary combinations of references below, the combination of (1) any of the references listed as anticipatory in Section X.B with the knowledge of one of ordinary skill or (2) any of the exemplary combinations listed below with the knowledge of ordinary skill would render obvious the '633 Asserted Claims. These identified combinations are exemplary, and Samsung reserves

the right to identify additional combinations at the later stages of the case, and/or during expert discovery.

2. Primary References

The following references anticipate or alone render obvious at least one or more of the ’633 Asserted Claims (hereinafter “Primary References”).

- Cannon
- Casio Vivcel Watch
- Fujisawa
- Hasegawa
- Hsu
- IBM WatchPad
- IBM Linux Watch
- Kita-039
- Kita-514
- Narayanaswami
- Narayanaswami-997
- Vong

3. Obviousness Of Watch Bands And Buckle

The ’633 Asserted Claims recite limitations relating to watch bands and buckle. For example, these limitations appear in the following claims:

- Claim Element 1[a]: “a watch band”
- Claim Element 1[b]: “a second watch band”
- Claim Element 1[c]: “a buckle, wherein said buckle is coupled to said second watch band”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose watch bands and buckle.

- Cannon. *See* Ex. I2 at Claims 1[a], 1[b], 1[c].
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 1[a], 1[b], 1[c].
- Fujisawa. *See* Ex. I3 at Claims 1[a], 1[b], 1[c].

- Hasegawa. *See* Ex. I4 at Claims 1[a], 1[b], 1[c].
- IBM Linux Watch. *See* Ex. I17 at Claims 1[a], 1[b], 1[c].
- IBM WatchPad. *See* Ex. I18 at Claims 1[a], 1[b], 1[c].
- Kita-039. *See* Ex. I6 at Claims 1[a], 1[b], 1[c].
- Kazuhiro. *See* Ex. I7 at Claims 1[a], 1[b], 1[c].
- Kita-514. *See* Ex. I19 at Claims 1[a], 1[b], 1[c].
- Nakatake. *See* Ex. I8 at Claims 1[a], 1[b], 1[c].
- Takeshi. *See* Ex. I12 at Claims 1[a], 1[b], 1[c].

A PHOSITA would have been motivated and found it obvious to combine or apply the teachings of the foregoing references disclosing watch bands and buckle for a number of reasons. Indeed, a PHOSITA would have understood the benefits of a wristwatch system, would have recognized that configuring a system as a wristwatch comprising watch bands and a buckle would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Cannon at [0009] ("capable of storing a message of such a nature that a user would want to be notified and/or reminded of its existence in quick fashion upon returning to the vicinity of the wireless device so that he can immediately retrieve the pending message"), Casio VIVCEL Watch: Casio VIVCEL Video at 0:50-1:02, Casio VIVCEL Watch: 1994 Casio VCL-100 (VIVCEL) Video at 0:04-0:15, Fujisawa at [0155] ("watch-shaped information processing device 12"), Fujisawa at Fig. 30, Hasegawa at 1:50-58 ("It is an object of the present invention to provide a portable telephone set capable of coping with a wide variety of situations where the portable telephone set is used. It is another object of the present invention to provide a portable telephone set of the type described, with improved portability. It is still another object of the present invention to provide a portable telephone device which can be used in a noisy place."), IBM Linux Watch: Energy trade-offs in the IBM Wristwatch computer at Fig. 1, IBM WatchPad, Kita-039 at [0114] ("[E]ach of the child terminals B-1 to B-3 is a wristwatch type, and includes a device body 101, 201, 301 and wristbands 102, 202, 302 fastened to both end parts of the device

[redacted]

body 101, 201, 301"), Kazuhiro at [0022] ("The drawings in FIG. 1 are for describing a wristwatch unit (wristwatch with display for a mobile phone) 3 as the mobile phone auxiliary device of the present invention, FIG. 1(a) is a drawing for describing an outline of the mobile phone system 100 composed of the wristwatch unit and a paired mobile phone 1 configured so as to be able to communicate wirelessly with the wristwatch unit and an example of the display content of the wristwatch unit, and FIG. 1(b) and FIG. 1(c) are drawings showing separate examples of the display content of the wristwatch unit."), Kita-514 at [0012] ("a band section joined to the case body, removably secured on a human body of a user to make the information processing terminal device wearable"), Nakatake at Figs. 1 and 4, Takeshi at [0012] ("The accessories are not limited to bracelets and pendants, and can be applied to earrings, mascots, badges, necklaces, brooches, watches, eyeglass frames, key chains, and the like."), Takeshi at [0045] ("In each of the embodiments described above, the jewelry is a bracelet"). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include watch bands and buckle to the extent not already disclosed by the Primary Reference.

4. Obviousness Of Receiving Wireless Communication Signals Associated With Different Events

The '633 Asserted Claims recite limitations relating to receiving wireless communication signals associated with different events. For example, these limitations appear in the following claims:

[redacted]

- Claim Element 1[d]: "a device operable to receive first wireless communication signals associated with a first event and second wireless communication signals associated with a second event from said mobile telephonic device, wherein said first event and second event are different"
- Claim 17: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said device is configured to receive third wireless communication signals associated with a third event"
- Claim 27: "wherein said device is operable to receive third wireless communication signals associated with a third event, wherein each of said first event, second event, and third event is different, and said device is operable to provide third user-perceivable notification signals that are dependent upon said third wireless communication signals"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose receiving wireless communication signals associated with different events.

- Britt. *See* Ex. I1 at Claims 1[d], 17, 27.
- Cannon. *See* Ex. I2 at Claims 1[d], 17, 27.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 1[d], 17, 27.
- Fujisawa. *See* Ex. I3 at Claims 1[d], 17, 27.
- Hsu. *See* Ex. I5 at Claims 1[d], 17, 27.
- IBM Linux Watch. *See* Ex. I17 at Claims 1[d], 17, 27.
- IBM WatchPad. *See* Ex. I18 at Claims 1[d], 17, 27.
- Kita-039. *See* Ex. I6 at Claims 1[d], 17, 27.
- Kazuhiro. *See* Ex. I7 at Claims 1[d], 17, 27.
- Kita-514. *See* Ex. I19 at Claims 1[d], 17, 27.
- Nakatake. *See* Ex. I8 at Claims 1[d], 17, 27.
- Narayanaswami. *See* Ex. I9 at Claims 1[d], 17, 27.
- Narayanaswami-997. *See* Ex. I10 at Claims 1[d], 17, 27.

[redacted]

- Nokia 8890 User Guide. *See* Ex. I15 at Claims 1[d], 17, 27.
- Shiraishi. *See* Ex. I11 at Claims 1[d], 17, 27.
- Takeshi. *See* Ex. I12 at Claims 1[d], 17, 27.
- Valade. *See* Ex. I13 at Claims 1[d], 17, 27.
- Vong. *See* Ex. I14 at Claims 1[d], 17, 27.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing receiving wireless communication signals associated with different events for a number of reasons. Indeed, a PHOSITA would have understood the benefits of a device receiving wireless communication signals associated with different events, would have recognized that configuring a mobile communication device to receive wireless communication signals associated with different events would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0073]-[0074] ("Many wireless and non-wireless telephony devices also include a 'vibrate alert' feature which, when selected by the user, will cause the telephony device to vibrate rather than ring. This feature is particularly useful in situations where the user does not wish to disturb others with the ringing sound of his/her telephony device (e.g., in a movie theater or a conference). However, when the 'vibrate alert' feature is activated, current telephony devices do not provide users with the ability to identify the caller (i.e., without looking at the device's display). One embodiment of the invention, illustrated generally in FIG. 10, includes a 'distinctive vibrate' feature which allows users to identify callers based on the manner in which the portal device 150 vibrates."), Cannon at [0009] ("capable of storing a message of such a nature that a user would want to be notified and/or reminded of its existence in quick fashion upon returning to the vicinity of the wireless device so that he can immediately retrieve the pending message"), Casio VIVCEL Watch: 1994 Casio VCL-100 (VIVCEL) video at 0:04-0:15 ("1994 Casio VCL-100 (VIVCEL)

still able to detected incoming cellular calls twenty-seven years later."), Casio VIVCEL Watch: VIVCEL Manual at 2 ("VIVCEL operates by picking up signals from your cell phone[;] a paging operation may also be triggered by an outgoing call or even while a call is in progress. A paging operation can also be triggered by another cell phone or other device operating on the same frequency as your cell phone."), Fujisawa at Abstract ("When there is an incoming call to a mobile telephone, it sends an incoming call notification signal to a watch-shaped information processing device. When the watch-shaped information processing device receives the incoming call notification signal, it notifies its user of the incoming call. The watch-shaped information processing device can also sends user's instructions to the mobile telephone. The instructions cause the mobile telephone to conduct processing for incoming call such as processing for asking the caller to wait, or asking the caller to leave a message."), Fujisawa at [0002] ("Recently, small and lightweight mobile telephones are widely used, and they are often put in bags when carried by their users. In that case, users have to take the mobile telephone from the bag to answer the telephone. This takes time, and sometimes the calling can end before answering."), Hsu at 1:55-2:7 ("[T]he user of a mobile station may not hear the tone signals provided by the mobile station, particularly in a high-noise environment; and the user may not be able to feel a vibrating call indication …. As a result, a person who does not like to hang the mobile phone on a belt or the like, can easily miss the incoming call, especially when mobile phone is in vibration mode. The other problem is such a user may not know when the station is running out of battery, because the user may not timely view the low-battery indicator on the station's display. Hence a need exists for a technique to extend status notifications from a mobile station, in situations in which the station's normal status signaling may not be readily perceptible by the user."), IBM Linux Watch: Energy trade-offs in the IBM Wristwatch computer at 139 ("We have three alternative ways in which the

[redacted]

watch can receive data from other devices, infrared, Bluetooth TM and serial connection on the docking station/charger for the watch. The most convenient way of getting data into the watch is Bluetooth and is recommended when the battery is freshly charged. Infrared consumes less power than the Bluetooth and can be used at other times. When the user does not want to deplete the watch battery for getting data updates, putting the watch on the charger and using the docking station is recommended."), IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("In / out device-Input by text/speech, voice output, and warning by vibration"), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("WatchPad can be used not only as a stand-along PDA device but also as a secured wireless front-end user interface device for the adjunct devices such as mobile computers, cellular phones, and other pervasive devices being carried with you using its fingerprint sensor and Bluetooth communications."), IBM WatchPad: IBM WatchPad 1.5 at 1 ("Trigger device-Automatic event control by approaching or leaving the place"), IBM 000192 at IBM 000196-197 ("A second useful scenario for the WatchPad is to allow the user to control the responses to incoming calls. The WatchPad's audio beeper and vibration

[redacted]

device can quickly get the user's attention. Once the user's attention is obtained, he can be presented with the call details and also a list of options for responding to the call. . . . When a notification about an incoming call is received, our application audibly notifies the user and takes over the display. As shown in Figure 6 , the name of the calling party is displayed on the screen along with a menu of pre-configured options that allow the user to respond to the call in several different ways:"), [redacted]

Kita-039 at Abstract ("To provide a communication terminal system and a body-wearable wireless communication terminal capable of improving mobility without degrading basic functions related to usability …. A parent terminal A and child terminals B-1, B-2, and B-3 that are capable of communicating with the parent terminal A are provided."), Kazuhiro at Abstract ("A mobile phone auxiliary device configured so as to be capable of wireless communication with a paired mobile phone and in the form of a wristwatch worn on the arm of the user includes a receiving means for receiving an incoming transmission notification signal containing incoming transmission information transmitted by the abovementioned mobile wireless device or a character string such as a name corresponding to the incoming transmission information when the mobile wireless device has an incoming transmission, a notification means for making notification of the fact that there is an incoming transmission on the basis of the incoming transmission notification signal, and a display means for displaying the incoming transmission information."), Kita-514 at [0155] ("Therefore, according to the function module unit 85 having the wireless communication function, data received by the wireless signal control section 854 through the antenna 855 can be transferred to the body case 6 through the wrist band 4 and displayed on the display section 60."), Nakatake at [0001] ("The present invention relates to a portable communication terminal for

[redacted]

providing notification of an incoming call using the portable communication terminal and a wrist watch, a wrist watch, an incoming call system, and an incoming call method."), Narayanaswami at 1:66-2:9 ("It would thus be highly desirable to provide a wearable device/appliance (a wrist watch) capable of wirelessly accessing information and equipped with an interactive user interface and high resolution display for providing a variety of desktop PC-like functions. It would additionally be highly desirable to provide a wearable device/appliance (a wrist watch) capable of providing time-keeping/alarm functions and equipped with an interactive user interface for enabling the setting of the various time-keeping/alarm functions in a manner requiring minimal effort and concentration from the user."), Narayanaswami-997 at 2:1-6 ("It would be highly desirable to provide a wearable device/appliance (a wrist watch) capable of providing time keeping functions equipped with an interactive user interface for displaying a graphic watchface in a manner that conserves display real estate enabling the concurrent display of other textual/graphic content."), Nokia 8890 User Guide at 96 ("You can set up your phone to receive data through its infrared (IR) port.") Shiraishi at 2:34-40 ("Accordingly, it is a primary object of the present invention to eliminate or solve the above-described problems by providing a display apparatus, as well as a portable information processing apparatus, which can implement a plurality of icons of different colors and configurations without increasing memory size and which enables the user to easily grasp the functions corresponding to such icons."), Takeshi at [0005] ("When the incoming call is detected by the incoming call detection means, a predetermined pattern different from the predetermined flash controlled pattern is used in response to a detection signal…"), Valade at [0002] ("The user of a mobile terminal, in particular a mobile telephone, may not have easy access to it, for example because it is in a suitcase or a handbag and is not within easy reach, or the user is in a meeting, or the user does not hear the telephone ringing because of background noise, or

the user may have left the mobile telephone somewhere else."), Valade at [0007] ("Existing notification solutions are not satisfactory, however. This is because users have no choice as to how the arrival of an event is notified to them. They can be notified only via their mobile telephone, which is not necessarily easily accessible."), Vong at Abstract ("A host computer is provided with a main display unit and an auxiliary display unit. The host computer can free up screen space on the main display screen by routing certain types of display information to the auxiliary display unit for display. Display information can range from notification of events such as receipt of email, appointments, system messages, and information from separate applications."). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include receiving wireless communication signals associated with different events to the extent not already disclosed by the Primary Reference.

5. Obviousness Of A Battery

The '633 Asserted Claims recite limitations relating to a battery. For example, these limitations appear in the following claims:

- Claim Element 1[e]: "said device includes a battery"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose a battery.

- Britt. *See* Ex. I1 at Claim 1[e].
- Casio VIVCEL Watch. *See* Ex. I16 at Claim 1[e].
- Fujisawa. *See* Ex. I3 at Claim 1[e].
- Hasegawa. *See* Ex. I4 at Claim 1[e].
- Hsu. *See* Ex. I5 at Claim 1[e].
- IBM Linux Watch. *See* Ex. I17 at Claim 1[e].

- IBM WatchPad. *See* Ex. I18 at Claim 1[e].
- Kita-039. *See* Ex. I6 at Claim 1[e].
- Kita-514. *See* Ex. I19 at Claim 1[e].
- Narayanaswami. *See* Ex. I9 at Claim 1[e].
- Narayanaswami-997. *See* Ex. I10 at Claim 1[e].
- Shiraishi. *See* Ex. I11 at Claim 1[e].
- Takeshi. *See* Ex. I12 at Claim 1[e].

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing a battery for a number of reasons. Indeed, a PHOSITA would have understood the benefits of a mobile communication device comprising a battery, would have recognized that configuring a mobile communication device to comprise a battery would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0038] ("As illustrated in FIG. 5, one embodiment of the portal device 150 is comprised generally of a microcontroller 505, an external memory 550, a display controller 575, and a battery 560."), Casio VIVCEL Watch: Casio VIVCEL Video at 0:50-1:02, Casio VIVCEL Watch: 1994 Casio VCL-100 (VIVCEL) Video at 0:04-0:15, Fujisawa at [0137] ("A battery 34 supplies power to components of the watch-shaped information processing device 12."), Hasegawa at 5:32-56 ("Then the bearer is near a power source capable of charging the battery of the subunit 29a, the bearer can charge the battery of the subunit 29a. Therefore, charging the batter[y] is not troublesome, and an interruption which might occur on consumption of the battery can be avoided."), Hsu at 9:8-10:38 ("…The tool draws all power from an internal battery 150. The battery 150 may be similar to batteries for wristwatches and the like."), IBM Linux Watch: Application Design for A Smart Watch at 8 ("Power is supplied by a rechargeable lithium-polymer battery."), IBM WatchPad: WatchPad 1.5 hardware overview at 1 ("Power[:] Li-Ion rechargeable"), Kita-039 at [0006] ("install a battery with sufficient capacity,

[redacted]

thereby ensuring basic functions related to usability, such as display, operability, battery capacity, and the like"), Kita-514 at [0117] ("The body case 6 contains the control circuit section 63 and a primary cell (battery) 64 arranged in this order below the display section 60, as illustrated in FIG. 3. The body case 6 is closed by a back case 66."), Narayanaswami at 7:9-17 ("power manager 270, for example, measures the power left in the battery, estimates the power required to run an application, and recommends what Subsystems need to be shut down as the battery starts draining out"), Narayanaswami-997 at 3:63-67 ("FIG. 2 further illustrates the main card 50 as comprising power supply subsystem including a rechargeable Li-Polymer type battery 65 and a DC to DC converter 66 for supporting a wide dynamic range of Wrist Watch system/sub-system load."), Shiraishi at 16:64-17:11 ("…A battery capacity detecting unit 19A for detecting the remaining capacity of a battery as the power supplying means is connected to the CPU 18."), Takeshi at [0017] ("FIG. 5 illustrates a bracelet as an example of an accessory embodying the present invention, as described above. The bracelet 13 has a circuit board 11 containing a series of circuits from the antenna 1 to the manual input unit 8, a power supply unit 9 composed of a button-shaped battery, and a ring-shaped bracelet 13. An LED group 6 is provided."). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include a battery to the extent not already disclosed by the Primary Reference.

6. Obviousness Of Motion Sensing

The '633 Asserted Claims recite limitations relating to motion sensing. For example, these limitations appear in the following claims:

[redacted]

- Claim Element 1[f]: "said device includes motion sensing operable to distinguish between a plurality of different types of motion"
- Claim 18: "wherein at least one of said plurality of different types of motion is a human motion"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose motion sensing.

- Britt. *See* Ex. I1 at Claims 1[f], 18.
- Cannon. *See* Ex. I2 at Claims 1[f], 18.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 1[f], 18.
- Hsu. *See* Ex. I5 at Claims 1[f], 18.
- IBM Linux Watch. *See* Ex. I17 at Claims 1[f], 18.
- IBM WatchPad. *See* Ex. I18 at Claims 1[f], 18.
- Kita-039. *See* Ex. I6 at Claims 1[f], 18.
- Kazuhiro. *See* Ex. I7 at Claims 1[f], 18.
- Kita-514. *See* Ex. I19 at Claims 1[f], 18.
- Narayanaswami. *See* Ex. I9 at Claims 1[f], 18.
- Narayanaswami-997. *See* Ex. I10 at Claims 1[f], 18.
- Takeshi. *See* Ex. I12 at Claims 1[f], 18.
- Vong. *See* Ex. I14 at Claims 1[f], 18.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing motion sensing for a number of reasons. Indeed, a PHOSITA would have understood the benefits of including motion sensing operable to distinguish between a plurality of different types of motion, would have recognized that configuring a mobile communication device to comprise motion sensing operable to distinguish between a plurality of different types of motion would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0059] ("In one embodiment, a coupon or advertisement may be transmitted to the user's portal

[redacted]

device 150 from a portal device located at a business (in contrast to the embodiment above, where the coupon/advertisement is transmitted by the portal server 110). In this embodiment, the user's portal device 150 may automatically trigger the advertisement/coupon when it is brought within range of the business' portal device.”), Cannon at [0008] (“It is thus desirable to equip portable wireless devices, such as wireless telephones, pagers, PDA's, etc., with an indicator unit that is capable of sensing that the user has returned to the vicinity of the wireless device, and immediately notifying the user of a pending message, before the user actually notices the normal message-waiting indicator (e.g., flashing envelope).”), Casio VIVCEL Watch: VIVCEL Manual at 2 (“The VIVCEL paging function operated by picking up signals from your cell phone. The sensitivity setting determines how close a cell phone has to be form the watch for it to pick up these signals. Watch Setting [:] HIGH[,] Approximate Distance[:] 1 meter (40 inches)[,] When to use[:] When your phone is in a pocket that is away from the watch. Watch Setting [:] LOW[,] Approximate Distance[:] 50 centimeters (20 inches)[,] When to use[:] When your phone is located near the watch. When there are other cell phone users nearby.”), Hsu at 10:39-56 (“…The housing may contain only the monitor, or the monitor tool may be incorporated together with some other device, such as an electronic watch, a tracking device, etc. The housing of the monitor tool 21A connects to a bracelet or wristband 221, which allows the user to wear the tool 21A on his or her wrist 223.”), IBM Linux Watch: Designing a New Form Factor for Wearable Computing at 47 (“For the most recent version of the Linux Wristwatch prototype, we added … a two-axis accelerometer.”), IBM WatchPad: IBM WatchPad 1.5 at 1 (“Accelerator sensor switch acts according to arm movement”), IBM WatchPad: IBM WatchPad 1.5 at 1 (“Trigger device-Automatic event control by approaching or leaving the place”), IBM WatchPad: Is that a PC on your wrist at 1 (“acceleration sensor that detects the user’s hand movements”), Kita-039 at [0031] (“The call or

[redacted]

data communication continues (step S412), and if the base station with which the user communicates changes as a result of movement during the call/data communication, channel switching is performed (step S413)."), Kazuhiro at [0018] ("The present invention makes it possible to communicate wirelessly between a mobile phone auxiliary device in the form of a wristwatch (wristwatch unit) and a mobile phone using weak radio waves, so that a notification signal is received by the receiving means of the wristwatch unit when there is an incoming transmission to a mobile phone located within a predetermined distance from the wristwatch unit…"), Kita-514 at [0114] ("Attached to the other wrist band 5 are a function module unit 82 having a temperature sensor function; a function module unit 83 having a pressure sensor function; and a function module unit 84 having an electronic direction sensor."), Narayanaswami at 6:10-21 ("To detect the posture of the watch, a mechanical four-way tilt sensor 72 is further provided comprising mechanical Switches (for detecting degree of tilt) producing signals which may be detected by the CPU. This Sensor may be used for the various purposes Such as power management, display control, etc. …. Examples may include additional tilt and motion (velocity, direction, Speed) Sensors, environment Sensors Such as thermal Sensors, pressure Sensors, health monitoring Sensors Such as blood pressure, etc."), Narayanaswami-997 at 5:33-51 ("…To detect the posture of the watch, a mechanical four-way tilt sensor 72 is further provided comprising mechanical switches (for detecting degree of tilt) producing signals which may be detected by the CPU. This sensor may be used for the various purposes such as power management, display control, etc. In a preferred embodiment, additional sensors may be attached to the Wrist Watch device over an interface. Examples may include additional tilt and motion (velocity, direction, speed) sensors, environment sensors such as thermal sensors, pressure sensors, health monitoring sensors such as blood pressure, etc."), Takeshi at [0038] ("Reference numeral 10 denotes a swing

[redacted]

detection unit, which outputs a swing detection signal when the swing detection unit 10 detects a motion such as shaking, and the plurality of LED groups 6 are driven to blink. When the user detects movement such as shaking when the user wears the bracelet 13 on his / her arm, a flickering control is performed by outputting a swing detection signal, and the movement of the arm on which the bracelet 13 is worn stops. In this case, no blinking control is performed because no swing detection signal is output."), Vong at 9:55-59 ("the micro-chip controller may support several functions including six momentary push-button switches; volume control; message notification light; IR blaster; hibernate mode/power mode LED (red/green states); and a motion sensor"). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include motion sensing to the extent not already disclosed by the Primary Reference.

7. Obviousness Of User-Perceivable Notification Signals That Are Dependent Upon The Communication Signals

The '633 Asserted Claims recite limitations relating to user-perceivable notification signals that are dependent upon the communication signals. For example, these limitations appear in the following claims:

- Claim Element 1[g]: "said device is operable to provide first user-perceivable notification signals that are dependent upon said received first communication signals, and said device is operable to provide second user perceivable notification signals that are dependent upon said second communication signals"

[redacted]

- Claim 21: "wherein said device is operable to allow a user to select a type of user-perceivable signal for said first user-perceivable signals that is different than a type of user-perceivable signal for said second user-perceivable signals"
- Claim 27: "wherein said device is operable to receive third wireless communication signals associated with a third event, wherein each of said first event, second event, and third event is different, and said device is operable to provide third user-perceivable notification signals that are dependent upon said third wireless communication signals"
- Claim 28: "wherein said device is operable to allow a user to select different types of user-perceivable signals for each of said first user-perceivable signals, said second user-perceivable signals, and said third user-perceivable signals"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose user-perceivable notification signals that are dependent upon the communication signals.

- Britt. *See* Ex. I1 at Claims 1[g], 21, 27, 28.
- Cannon. *See* Ex. I2 at Claims 1[g], 21, 27, 28.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 1[g], 21, 27, 28.
- Fujisawa. *See* Ex. I3 at Claims 1[g], 21, 27, 28.
- Hsu. *See* Ex. I5 at Claims 1[g], 21, 27, 28.
- IBM Linux Watch. *See* Ex. I17 at Claims 1[g], 21, 27, 28.
- IBM WatchPad. *See* Ex. I18 at Claims 1[g], 21, 27, 28.
- Kita-039. *See* Ex. I6 at Claims 1[g], 21, 27, 28.
- Kazuhiro. *See* Ex. I7 at Claims 1[g], 21, 27, 28.
- Kita-514. *See* Ex. I19 at Claims 1[g], 21, 27, 28.
- Nakatake. *See* Ex. I8 at Claims 1[g], 21, 27, 28.
- Narayanaswami. *See* Ex. I9 at Claims 1[g], 21, 27, 28.
- Narayanaswami-997. *See* Ex. I10 at Claims 1[g], 21, 27, 28.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 1[g], 21, 27, 28.
- Shiraishi. *See* Ex. I11 at Claims 1[g], 21, 27, 28.
- Takeshi. *See* Ex. I12 at Claims 1[g], 21, 27, 28.
- Valade. *See* Ex. I13 at Claims 1[g], 21, 27, 28.

- Vong. *See* Ex. I14 at Claims 1[g], 21, 27, 28.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing user-perceivable notification signals that are dependent upon the communication signals for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing user-perceivable notification signals that are dependent upon the communication signals, would have recognized that configuring a mobile communication device to comprise user-perceivable notification signals that are dependent upon the communication signals would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0073]-[0074] ("Many wireless and non-wireless telephony devices also include a 'vibrate alert' feature which, when selected by the user, will cause the telephony device to vibrate rather than ring. This feature is particularly useful in situations where the user does not wish to disturb others with the ringing sound of his/her telephony device (e.g., in a movie theater or a conference). However, when the 'vibrate alert' feature is activated, current telephony devices do not provide users with the ability to identify the caller (i.e., without looking at the device's display). One embodiment of the invention, illustrated generally in FIG. 10, includes a 'distinctive vibrate' feature which allows users to identify callers based on the manner in which the portal device 150 vibrates."), Cannon at [0008] ("It is thus desirable to equip portable wireless devices, such as wireless telephones, pagers, PDA's, etc., with an indicator unit that is capable of sensing that the user has returned to the vicinity of the wireless device, and immediately notifying the user of a pending message, before the user actually notices the normal message-waiting indicator (e.g., flashing envelope)."), Cannon at [0034] "(…the user indication 130 and/or 135 might be an audible signal, a vibration, flashing lights or other indication

which a user will quickly notice upon his return to a portable wireless device"), Casio VIVCEL Watch: "VIVCEL" watch with vibrating alerts for incoming calls on mobile phones at 13 ("As mobile phones began to sweep the world, this watch responded with innovative linked functionality. The VCL-100 sensed signals in the 800 MHz frequency band transmitted by mobile phones to notify users of incoming calls with vibrating alerts."), Casio VIVCEL Watch: VIVCEL Manual at 3 ("Each press of R in the Alarm Mode toggles between vibration (VIB displayed) and tone (VIB not displayed)."), Fujisawa at [0156] ("On receiving the received data DRX, the central control circuit 25 determines that there is an incoming call to the mobile telephone 11, and then notifies user of incoming call and displays information (step S7). In more detail, in order to notify the user of incoming call, the central control circuit 25 controls the electronic sound unit 26 to produce a buzzer sound or an electronic sound, the vibrator 27 to produce a vibration, or the light emitting unit 28 to blink light emitting device such as an LED."), Hsu at 2:17-57 ("…Upon detecting such a signal, the monitor provides its own corresponding perceptible alert to the user. The signal may be a tone signal, a light and/or a vibration."), IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM

WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("In / out device-Input by text/speech, voice output, and warning by vibration"), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("WatchPad can be used not only as a stand-along PDA device but also as a secured wireless front-end user interface device for the adjunct devices such as mobile computers, cellular phones, and other pervasive devices being carried with you using its fingerprint sensor and Bluetooth communications."), IBM WatchPad: IBM WatchPad 1.5 at 1 ("Trigger device-Automatic event control by approaching or leaving the place"), Kita-039 at [0036] ("The external I/O interface 122 is used for inputting and outputting data to and from other connected electronic devices, and the vibrator motor 126 and the speaker 127 are connected to the amplifier 123. The vibrator motor 126 generates vibrations in place of an alarm sound when the speaker 127 is in an off state, and the speaker 127 is used to generate the alarm sound."), Kazuhiro at Claim 2 ("The mobile phone auxiliary device described in claim 1 in which the displayed incoming transmission information is a caller ID of the calling telephone or an email address of the incoming email transmitter, wherein the display means is a liquid crystal display and a vibrator is included at the notification means."), Kita-514 at [0155] ("Therefore, according to the function module unit 85 having the wireless communication function, data received by the wireless signal control section 854 through the antenna 855 can be transferred to the body case 6 through the wrist band 4 and displayed on the display section 60."), Nakatake at [0015] ("In FIG. 1, when the mobile phone 2 receives a voice call from a base station 1, the mobile phone notifies the wrist watch 3 that the voice call has occurred. The wrist watch 3 notifies the user of the incoming voice call by displaying the information on the LCD 33 or lighting an LED (not depicted), and provides a voice call service using an attached earphone 34 and microphone 35 upon request by the user."), Narayanaswami at 9:7-31 ("…This message may comprise a brief title or, optionally, longer more descriptive text

[redacted]

associated with the Set alarm indicated. For instance the title may indicate a meeting Subject or purpose, while descriptive text may indicate the location, list of participants, etc.”), Narayanaswami-997 at 4:1-16 (“the speaker functioning to provide voice output, produce customized tones, and enable acoustic coupling with other listening devices, etc.”), Nokia 8890 User Guide at 96 (“On a PC provided with an appropriate application, you can: Send a caller group graphic via IR …. Send a calendar note via IR …. Print a calendar note on a compatible printer”), Shiraishi at 2:33-40 (“Accordingly, it is a primary object of the present invention to eliminate or solve the above-described problems by providing a display apparatus, as well as a portable information processing apparatus, which can implement a plurality of icons of different colors and configurations without increasing memory size and which enables the user to easily grasp the functions corresponding to such icons.”), Takeshi at [0006] (“Further, according to the present invention, there is provided an incoming call detecting means for detecting an incoming call of a mobile phone, a plurality of blinkable light-emitting members arranged so as to be visible, and a predetermined pattern of the light-emitting members.”), Valade at [0013] (“For example, if a user is in a meeting and using a personal computer, the management profile can specify that all incoming events reaching the mobile telephone are to be notified by means of a message appearing on the computer screen, or that only electronic mail (e-mail) type incoming events are to be notified in this way.”), Valade at [0018] (“Accordingly, users can program their mobile telephone to apply the management profile of their choice.”), Vong at Abstract (“A host computer is provided with a main display unit and an auxiliary display unit. The host computer can free up screen space on the main display screen by routing certain types of display information to the auxiliary display unit for display. Display information can range from notification of events such as receipt of email, appointments, system messages, and information from separate applications.”). A PHOSITA

would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include user-perceivable notification signals that are dependent upon the communication signals to the extent not already disclosed by the Primary Reference.

8. Obviousness Of Audible Notifications And Related Hardware

The ’633 Asserted Claims recite limitations relating to audible notifications and related hardware. For example, these limitations appear in the following claims:

- Claim 2: “further comprising an amplifier”
- Claim 3: “wherein said user-perceivable notifications signals comprise audible notification signals”
- Claim 5: “wherein said device further comprises a vibrator”
- Claim 6: “wherein said device further comprises a speaker”
- Claim 9: “wherein said device further comprises a display, a speaker, a vibrator, control circuitry, an input device, and memory”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose audible notifications and related hardware.

- Britt. *See* Ex. I1 at Claims 2, 3, 5, 6, 9.
- Cannon. *See* Ex. I2 at Claims 2, 3, 5, 6, 9.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 2, 3, 5, 6, 9.
- Fujisawa. *See* Ex. I3 at Claims 2, 3, 5, 6, 9.
- Hasegawa. *See* Ex. I4 at Claims 2, 3, 5, 6, 9.
- Hsu. *See* Ex. I5 at Claims 2, 3, 5, 6, 9.
- IBM Linux Watch. *See* Ex. I17 at Claims 2, 3, 5, 6, 9.
- IBM WatchPad. *See* Ex. I18 at Claims 2, 3, 5, 6, 9.

[redacted]

- Kita-039. *See* Ex. I6 at Claims 2, 3, 5, 6, 9.
- Kazuhiro. *See* Ex. I7 at Claims 2, 3, 5, 6, 9.
- Kita-514. *See* Ex. I19 at Claims 2, 3, 5, 6, 9.
- Nakatake. *See* Ex. I8 at Claims 2, 3, 5, 6, 9.
- Narayanaswami. *See* Ex. I9 at Claims 2, 3, 5, 6, 9.
- Narayanaswami-997. *See* Ex. I10 at Claims 2, 3, 5, 6, 9.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 2, 3, 5, 6, 9.
- Shiraishi. *See* Ex. I11 at Claims 2, 3, 5, 6, 9.
- Takeshi. *See* Ex. I12 at Claims 2, 3, 5, 6, 9.
- Valade. *See* Ex. I13 at Claims 2, 3, 5, 6, 9.
- Vong. *See* Ex. I14 at Claims 2, 3, 5, 6, 9.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing audible notifications and related hardware for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing audible notifications and related hardware, would have recognized that configuring a mobile communication device to comprise audible notifications and related hardware would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0073]-[0074] ("Many wireless and non-wireless telephony devices also include a 'vibrate alert' feature which, when selected by the user, will cause the telephony device to vibrate rather than ring. This feature is particularly useful in situations where the user does not wish to disturb others with the ringing sound of his/her telephony device (e.g., in a movie theater or a conference). However, when the 'vibrate alert' feature is activated, current telephony devices do not provide users with the ability to identify the caller (i.e., without looking at the device's display). One embodiment of the invention, illustrated generally in FIG. 10, includes a 'distinctive vibrate' feature which allows users to identify callers based on the manner in which the portal device 150 vibrates."), Cannon at [0034] ("The particular type of user indication used to notify the user of the new message is not critical; however, the indication will be of such a nature so as to notify the user

of the pending message quicker than the indications currently available. For example, the user indication 130 and/or 135 might be an audible signal, a vibration, flashing lights or other indication which a user will quickly notice upon his return to a portable wireless device."), Casio VIVCEL Watch: "VIVCEL" watch with vibrating alerts for incoming calls on mobile phones at 13 ("As mobile phones began to sweep the world, this watch responded with innovative linked functionality. The VCL-100 sensed signals in the 800 MHz frequency band transmitted by mobile phones to notify users of incoming calls with vibrating alerts."), Casio VIVCEL Watch: VIVCEL Manual at 3 ("Each press of R in the Alarm Mode toggles between vibration (VIB displayed) and tone (VIB not displayed)."), Fujisawa at [0071] ("Also the notification unit may be equipped with at least two of among a display that makes notification operation by displaying, an electronic sound unit that makes notification operation by outputting electronic sound, a light emitting unit that makes notification operation by blinking, and a vibrator that makes a notification operation by vibrating. Then the notification judgement unit makes a judgement which unit to use for notification."), Fujisawa at [0142] ("In the receiver circuit 23, an RF amplifier 23A amplifies the received signal of the antenna unit 21 to output to a mixer 23C."), Hasegawa at 8:39-10:11 ("When the alarm signal is received as a received alarm signal, the received alarm signal is amplified and detected as a detected signal at a third step SB3."), Hasegawa at 4:46-57 ("In FIGS. 4 and 5, the subunit 29a is of a wrist watch type …. In addition, the illustrated subunit 29a further comprises a vibration casing body 93, belts 95 and 97, a contacting portion 99 which serves as a stimulus providing element put in contact with the skin or a wrist of the bearer, and antenna portions 75a and 75b."), Hsu at 2:29-39 ("Upon detecting such a signal, the monitor provides its own corresponding perceptible alert to the user. The signal may be a tone signal, a light and/or a vibration."), Hsu at 9:8-10:38 ("As shown in FIG. 4 the monitor tool 21 includes a digital receiver

(RCVR) 157 coupled to a receiving antenna 158. The receiver 157 connects through RF send and receive amplifiers (not separately shown) to an antenna 158."), IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("In / out device-Input by text/speech, voice output, and warning by vibration"), Kita-039 at [0036] ("The external I/O interface 122 is used for inputting and outputting data to and from other connected electronic devices, and the vibrator motor 126 and the speaker 127 are connected to the amplifier 123. The vibrator motor 126 generates vibrations in place of an alarm sound when the speaker 127 is in an off state, and the speaker 127 is used to generate the alarm sound."), Kita-514 at [0315] ("The function module unit 25 comprises … an audio signal processing section 2501, a codec 208, an amplifying device 209, a speaker 210 and a microphone 211. The audio input/ output function module unit 25 further comprises a control circuit section 861, a coding/decoding section 852, a modem 853, a wireless signal control section 854, and an antenna 855."), Nakatake at [0021] ("The notification information output by the wireless unit 22 is received by wireless unit 31 of the wrist watch 3 (S5), and the notification recognition unit 371 recognizes the type of incoming call (S6). Furthermore,

[redacted]

in the wrist watch 3, a predetermined notifying means is selected by the notifying means selection unit 372, and the user is notified of the incoming voice call by, for example, ① playing a ringtone, ② lighting an LED (not depicted), or ③ displaying a message on the LCD 33 (in accordance with the settings by the user) (S7).”), Narayanaswami at 4:37-48 (“…Wrist Watch designs that support PCM audio. Particularly, the accessory card 75, 80 implemented includes a speaker [with] the Speaker functioning to provide voice output, produce customized tones, and enable acoustic coupling with other listening devices, etc.”), Kazuhiro at Claim 2 (“The mobile phone auxiliary device described in claim 1 in which the displayed incoming transmission information is a caller ID of the calling telephone or an email address of the incoming email transmitter, wherein the display means is a liquid crystal display and a vibrator is included at the notification means.”), Narayanaswami at 12:26-29 (“In another embodiment, the Wrist Watch time-keeping/alarm function may be provisioned with the ability to produce a Silent alert Such as a vibration, if an alarm is Set for a particular time instant covered by a quiet time Setting.”), Narayanaswami-997 at 4:1-12 (“…Wrist Watch designs that support PCM audio. Particularly, the accessory card 75, 80 implemented includes a speaker [with] the speaker functioning to provide voice output, produce customized tones, and enable acoustic coupling with other listening devices, etc.”), Nokia 8890 User Guide at 19 (“When someone calls you, the phone alerts you (see “Ringing options” on page 60) and Call flashes on the display.”), Shiraishi at 59:64-60:4 (“Referring to FIG. 54C, in the case where the information notification function has been set beforehand, the voice output unit of the portable device produces a voice or sound information such as a melody when the designated time has come and, at the same time, a pop-up menu 1142 indicating the outline of the schedule appears at a position adjacent to the building icon 1140. Thus, notification to the user is given both by way of audio information and visual information.”), Takeshi at [0016] (“On the other hand, reference

numeral 7 denotes a switching circuit, which includes a switching switch element, which receives a signal input to the control unit 4 from the radio wave detection unit 2 via the amplification unit 3 and a manual input unit 8. Switch to the one from Reference numeral 9 denotes a power supply unit that supplies power to the above units."), Valade at [0002] ("The user of a mobile terminal, in particular a mobile telephone, may not have easy access to it, for example because it is in a suitcase or a handbag and is not within easy reach, or the user is in a meeting, or the user does not hear the telephone ringing because of background noise, or the user may have left the mobile telephone somewhere else."), Valade at [0007] ("Existing notification solutions are not satisfactory, however. This is because users have no choice as to how the arrival of an event is notified to them. They can be notified only via their mobile telephone, which is not necessarily easily accessible."), Valade at [0020] ("More generally, the arrival of an event can be notified to any type of terminal able to communicate with the mobile telephone and to issue a notification for the attention of the user in the form of an audible, vibratory, visual, etc. message."), Vong at 7:5-24 ("[A] camera and microphone/speaker are shown coupled to the auxiliary display unit for receiving audio and video input and generating audio and video output …. Further, an auxiliary display unit … may be configured to have … a video camera-intercom system, email notification on the display panel in the form of video or text or output by a speaker for voice"). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include audible notifications and related hardware to the extent not already disclosed by the Primary Reference.

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9. Obviousness Of Visual Notifications And Related Hardware

The ’633 Asserted Claims recite limitations relating to visual notifications and related hardware. For example, these limitations appear in the following claims:

- Claim 4: “wherein said device further comprises a display”
- Claim 7: “wherein said device further comprises an LED”
- Claim 9: “wherein said device further comprises a display, a speaker, a vibrator, control circuitry, an input device, and memory”

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose visual notifications and related hardware.

- Britt. *See* Ex. I1 at Claims 4, 7, 9.
- Cannon. *See* Ex. I2 at Claims 4, 7, 9.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 4, 7, 9.
- Fujisawa. *See* Ex. I3 at Claims 4, 7, 9.
- Hasegawa. *See* Ex. I4 at Claims 4, 7, 9.
- Hsu. *See* Ex. I5 at Claims 4, 7, 9.
- IBM Linux Watch. *See* Ex. I17 at Claims 4, 7, 9.
- IBM WatchPad. *See* Ex. I18 at Claims 4, 7, 9.
- Kita-039. *See* Ex. I6 at Claims 4, 7, 9.
- Kazuhiro. *See* Ex. I7 at Claims 4, 7, 9.
- Kita-514. *See* Ex. I19 at Claims 4, 7, 9.
- Nakatake. *See* Ex. I8 at Claims 4, 7, 9.
- Narayanaswami. *See* Ex. I9 at Claims 4, 7, 9.
- Narayanaswami-997. *See* Ex. I10 at Claims 4, 7, 9.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 4, 7, 9.
- Shiraishi. *See* Ex. I11 at Claims 4, 7, 9.
- Takeshi. *See* Ex. I12 at Claims 4, 7, 9.
- Valade. *See* Ex. I13 at Claims 4, 7, 9.
- Vong. *See* Ex. I14 at Claims 4, 7, 9.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing visual notifications and related hardware for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing visual

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notifications and related hardware, would have recognized that configuring a mobile communication device to comprise visual notifications and related hardware would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0036] ("Also illustrated is a display 430 for displaying various types of portal data. In one embodiment the display is a Liquid Crystal Display ("LCD"). Of course, other display technologies may be implemented while still complying with the underlying principles of the invention (e.g., Light Emitting Diode ("LED") displays). Also included is a set of control buttons 440 and 441 for selecting menu items and/or jumping back and forth between stored portal data and a control knob 450 for scrolling between menu items and/or data. In one embodiment, the control knob 450 rotates on an axis which is substantially perpendicular to the plane of the display 430."), Cannon at [0034] ("The particular type of user indication used to notify the user of the new message is not critical; however, the indication will be of such a nature so as to notify the user of the pending message quicker than the indications currently available. For example, the user indication 130 and/or 135 might be an audible signal, a vibration, flashing lights or other indication which a user will quickly notice upon his return to a portable wireless device."), Casio VIVCEL Watch: "VIVCEL" watch with vibrating alerts for incoming calls on mobile phones at 13 ("It also showed a playful side, displaying pixel-based animations of various characters in the LCD in conjunction with watch functions."), Fujisawa at [0071] ("Also the notification unit may be equipped with at least two of among a display that makes notification operation by displaying, an electronic sound unit that makes notification operation by outputting electronic sound, a light emitting unit that makes notification operation by blinking, and a vibrator that makes a notification operation by vibrating. Then the notification judgement unit makes a judgement which unit to use

for notification.”), Hasegawa at 7:4-8:18 (“Referring to FIG. 12, the subunit 29c comprises an antenna 75, a subunit hybrid circuit 133, a receiving circuit 77, a waveform shaping circuit 79, a calling confirmation signal collating circuit 81, a calling confirmation signal setting circuit 87, a subsidiary CPU 83, a vibrator 85, a power switch 89, a LED indicating portion 135, a command signal transmitting circuit 137, a message selection switch 139, and a transmitting switch 141.”), Hsu at 2:29-39 (“Upon detecting such a signal, the monitor provides its own corresponding perceptible alert to the user. The signal may be a tone signal, a light and/or a vibration.”), Hsu at 9:8-10:38 (“As shown, the monitor tool 21 includes a one or more LEDs 149 or the like for providing visible output(s). For example, one LED might flash during ringing, as part of the indication of an incoming call or message, whereas a second LED might flash during low-battery indication.”), IBM Linux Watch: The Challenge of Miniaturization at 33 (“A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: ‘Dad, don’t forget my Chicago Cubs cap.’ He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to his wife’s cell phone: ‘Flight delay. Can’t pick up Rob after baseball.’ At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase.”), IBM Linux Watch: Energy trade-offs in the IBM Wristwatch computer at 133 (“Our watch has a touch sensitive screen and a roller wheel for user interaction. The main card has an ARM 7 based Cirrus EP 7211 processor, 8MB of Flash memory and 8MB of DRAM, and serial, IrDA, and expansion interfaces. We have two monochrome displays, a 96x

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120 reflective LCD and a 640x480 Organic LED (OLED) display."), IBM WatchPad: IBM WatchPad 1.5 at 1 ("QVGA (320 x 240 dots) reflective monochrome liquid crystal display w/ touch panel"), Kita-039 at [0051] ("The clock functional unit 211 includes a circuit that is included in well-known digital wristwatches, and has a CPU 215 connected to a bus 214. Furthermore, a program memory 216, a clock unit 217, a display I/F 218, a driver 208, a key input unit 219, data memory 220, an input/output I/F 221, an external I/O interface 222, and an amplifier 223 are connected to the bus 214."), Kazuhiro at Claim 2 ("The mobile phone auxiliary device described in claim 1 in which the displayed incoming transmission information is a caller ID of the calling telephone or an email address of the incoming email transmitter, wherein the display means is a liquid crystal display and a vibrator is included at the notification means."), Kita-514 at [0155] ("Therefore, according to the function module unit 85 having the wireless communication function, data received by the wireless signal control section 854 through the antenna 855 can be transferred to the body case 6 through the wrist band 4 and displayed on the display section 60."), Nakatake at [0015] ("In FIG. 1, when the mobile phone 2 receives a voice call from a base station 1, the mobile phone notifies the wrist watch 3 that the voice call has occurred. The wrist watch 3 notifies the user of the incoming voice call by displaying the information on the LCD 33 or lighting an LED (not depicted), and provides a voice call service using an attached earphone 34 and microphone 35 upon request by the user."), Narayanaswami at 1:47-50 ("…LED or LCDs which can be used to display 6 or 8 digits/letters, and have a Small number of indicators that can display AM/PM, Alarm on/off, etc."), Narayanaswami at 2:13-16 ("It is an object of the present invention to provide a wearable It device/appliance (a wrist watch) capable of wirelessly accessing information and equipped with an interactive user interface and high resolution display for providing a variety of desktop PC-like functions."), Narayanaswami at 7:67-8:17 ("Thus, this

application Software enables communication between the other device and the Wrist Watch by receiving/ displaying the data and transmitting back information Sent from the Wrist Watch. As a further example, caller Id information may be displayed on the Wrist Watch display when the cell phone that belongs to that person rings.”), Narayanaswami-997 at 2:1-46 (“It would be highly desirable to provide a wearable device/appliance (a wrist watch) capable of providing time keeping functions equipped with an interactive user interface for displaying a graphic watchface in a manner that conserves display real estate enabling the concurrent display of other textual/graphic content.”), Nokia 8890 User Guide at 19 (“When someone calls you, the phone alerts you (see “Ringing options” on page 60) and Call flashes on the display.”), Shiraishi at 59:64-60:4 (“Referring to FIG. 54C, in the case where the information notification function has been set beforehand, the voice output unit of the portable device produces a voice or sound information such as a melody when the designated time has come and, at the same time, a pop-up menu 1142 indicating the outline of the schedule appears at a position adjacent to the building icon 1140. Thus, notification to the user is given both by way of audio information and visual information.”), Takeshi at [0006] (“Further, according to the present invention, there is provided an incoming call detecting means for detecting an incoming call of a mobile phone, a plurality of blinkable light-emitting members arranged so as to be visible, and a predetermined pattern of the light-emitting members.”), Valade at [0002] (“The user of a mobile terminal, in particular a mobile telephone, may not have easy access to it, for example because it is in a suitcase or a handbag and is not within easy reach, or the user is in a meeting, or the user does not hear the telephone ringing because of background noise, or the user may have left the mobile telephone somewhere else.”), Valade at [0007] (“Existing notification solutions are not satisfactory, however. This is because users have no choice as to how the arrival of an event is notified to them. They can be notified

only via their mobile telephone, which is not necessarily easily accessible."), Valade at [0020] ("More generally, the arrival of an event can be notified to any type of terminal able to communicate with the mobile telephone and to issue a notification for the attention of the user in the form of an audible, vibratory, visual, etc. message."), Vong at Abstract ("A host computer is provided with a main display unit and an auxiliary display unit. The host computer can free up screen space on the main display screen by routing certain types of display information to the auxiliary display unit for display."), Narayanaswami-997 at 5:58-6:3 ("[T]he OLED chip 100 is a high-resolution pixel addressable display, e.g., 640×480, for enabling the display of various textual and graphical items on the watch face"). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include visual notifications and related hardware to the extent not already disclosed by the Primary Reference.

10. Obviousness Of Controlling Hardware

The '633 Asserted Claims recite limitations relating to controlling hardware. For example, these limitations appear in the following claims:

- Claim 8: "wherein said device further comprises control circuitry, an input device, and memory"
- Claim 9: "wherein said device further comprises a display, a speaker, a vibrator, control circuitry, an input device, and memory"

[redacted]

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose controlling hardware.

- Britt. *See* Ex. I1 at Claims 8, 9.
- Cannon. *See* Ex. I2 at Claims 8, 9.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 8, 9.
- Fujisawa. *See* Ex. I3 at Claims 8, 9.
- Hasegawa. *See* Ex. I4 at Claims 8, 9.
- Hsu. *See* Ex. I5 at Claims 8, 9.
- IBM Linux Watch. *See* Ex. I17 at Claims 8, 9.
- IBM WatchPad. *See* Ex. I18 at Claims 8, 9.
- Kita-039. *See* Ex. I6 at Claims 8, 9.
- Kazuhiro. *See* Ex. I7 at Claims 8, 9.
- Kita-514. *See* Ex. I19 at Claims 8, 9.
- Nakatake. *See* Ex. I8 at Claims 8, 9.
- Narayanaswami. *See* Ex. I9 at Claims 8, 9.
- Narayanaswami-997. *See* Ex. I10 at Claims 8, 9.
- Shiraishi. *See* Ex. I11 at Claims 8, 9.
- Takeshi. *See* Ex. I12 at Claims 8, 9.
- Valade. *See* Ex. I13 at Claims 8, 9.
- Vong. *See* Ex. I14 at Claims 8, 9.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing controlling hardware for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing controlling hardware, would have recognized that configuring a mobile communication device to comprise controlling hardware would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0036] ("Also illustrated is a display 430 for displaying various types of portal data. In one embodiment the display is a Liquid Crystal Display ("LCD"). Of course, other display technologies may be implemented while still complying with the underlying principles of the invention (e.g., Light Emitting Diode ("LED") displays). Also

included is a set of control buttons 440 and 441 for selecting menu items and/or jumping back and forth between stored portal data and a control knob 450 for scrolling between menu items and/or data. In one embodiment, the control knob 450 rotates on an axis which is substantially perpendicular to the plane of the display 430.”), Cannon at [0029] (“[C]ontroller 125 checks to see if it has received a control signal from at least one of the proximity sensors described above in connection with FIG. 1 that the user has returned.”), Casio VIVCEL Watch: Casio VIVCEL Video at 0:50-1:02, Casio VIVCEL Watch: 1994 Casio VCL-100 (VIVCEL) Video at 0:04-0:15, Fujisawa at [0134] (“An external input unit 30 is equipped with buttons, a touch panel, and so on. Operating state of the external input unit 30 is checked by the central control circuit 25.”), Fujisawa at [0136] (“A nonvolatile memory 33 stores various data and programs.”), Hasegawa at 7:4-8:18 (“Referring to FIG. 12, the subunit 29c comprises an antenna 75, a subunit hybrid circuit 133, a receiving circuit 77, a waveform shaping circuit 79, a calling confirmation signal collating circuit 81, a calling confirmation signal setting circuit 87, a subsidiary CPU 83, a vibrator 85, a power switch 89, a LED indicating portion 135, a command signal transmitting circuit 137, a message selection switch 139, and a transmitting switch 141.”), Hsu at 9:8-10:38 (“The monitor tool 21 will typically include a limited number of buttons or keys 147, similar to those found on an electronic wristwatch or the like. The keys 147, for example, may allow the user to reset the device 21 after a message alert or a low-battery alert. The keys 147 also may allow the user to select one or more options, if offered by the tool 21, such as different ring tones and/or between ringing and vibratory type alerts for the different types of perceptible notification. The monitor tool 21 also includes a controller, comprising logic circuitry for controlling the tool's operations. For small size and low-power operation, it may be best to implement the control circuit in the form of a dedicated circuit, for example using discrete components on an integrated circuit. Alternatively, the control circuit

[redacted]

may be implemented as an Application Specific Integrated Circuit (ASIC) or a programmable logic gate array (PLGA). In the illustrated example, the monitor tool 21 includes a programmable microprocessor 151, a flash memory 153 for parameter storage and a non-volatile random access memory (RAM) 153 for program storage and working data processing memory.”), IBM Linux Watch: Energy trade-offs in the IBM Wristwatch computer at 133 (“Our watch has a touch sensitive screen and a roller wheel for user interaction. The main card has an ARM 7 based Cirrus EP 7211 processor, 8MB of Flash memory and 8MB of DRAM, and serial, IrDA, and expansion interfaces. We have two monochrome displays, a 96x 120 reflective LCD and a 640x480 Organic LED (OLED) display.”), IBM WatchPad: WatchPad 1.5 hardware overview at 1 (showing “touch panel,” “fingerprint sensor,” “terminals,” and “main board”), IBM WatchPad: IBM WatchPad 1.5 at 1 (“CPU[:] Low power 32-bit CPU (18-74 MHz)[,] I/O device[:] Touch panel, Stem switch, Buttons … Memory [:] Low-power DRAM 8MB, Flash 16MB”), Kita-039 at [0051] (“The clock functional unit 211 includes a circuit that is included in well-known digital wristwatches, and has a CPU 215 connected to a bus 214. Furthermore, a program memory 216, a clock unit 217, a display I/F 218, a driver 208, a key input unit 219, data memory 220, an input/output I/F 221, an external I/O interface 222, and an amplifier 223 are connected to the bus 214.”), Kazuhiro at [0020] (“An operation means and a transmission means can be further provided so that the user can use the operation means to provide an instruction to respond to the incoming transmission decided on the basis of the incoming transmission information and cause the mobile phone through the transmission means to carry out response processing…”), Kita-514 at [0315] (“The function module unit 25 comprises a power interface section 201 and a ROM 816 which stores information unique to the function module unit 25 such as module ID/serial number or the like, connected in a similar manner, as well as an audio signal processing section 2501[.]The audio input/ output

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function module unit 25 further comprises a control circuit section 861[.]"), Nakatake at [0015] ("In FIG. 1, when the mobile phone 2 receives a voice call from a base station 1, the mobile phone notifies the wrist watch 3 that the voice call has occurred. The wrist watch 3 notifies the user of the incoming voice call by displaying the information on the LCD 33 or lighting an LED (not depicted), and provides a voice call service using an attached earphone 34 and microphone 35 upon request by the user."), Narayanaswami at 3:51-67 ("FIG. 2 is a detailed block diagram illustrating the hard ware architecture of the Wrist Watch system 10. As shown in FIG. 2, the base card 20 includes a first or main card 50 housing the core processing unit, I/O, and memory. For example the main card 50 includes a CPU 55, such as a Cirrus Logic CL-EP7211, which is a single-chip embedded controller functioning as a CPU for ultra-low-power applications, and armed with processing and enhanced memory management features to function equivalently as a 100 MHZ Pentium. The core processing unit may operate at 2.5 V, and, to minimize the board size, may be equipped with a 3.68 MHz ceramic resonator 57 for generating the main frequency clock and timing Signals, and a crystal-based clock circuit 56 for use in tracking real time. The main card 50 additionally includes sufficient nonvolatile and volatile memory including, for example, 64 Mbit EDO DRAM 58 and SRAM/Flash memory 59 that supports the system code."), Narayanaswami-997 at 3:35-67 ("FIG. 2 is a detailed block diagram illustrating the hardware architecture of the Wrist Watch system 10. As shown in FIG. 2, the base card 20 includes a first or main card 50 housing the core processing unit, I/O, and memory. For example the main card 50 includes a CPU 55, such as a Cirrus Logic CL-EP7211, which is a single-chip embedded controller functioning as a CPU for ultra-low-power applications, and armed with processing and enhanced memory management features to function equivalently as a 100 MHz Pentium. The core processing unit may operate at 2.5 V, and, to minimize the board size, may be equipped with a

3.68 MHz ceramic resonator 57 for generating the main frequency clock and timing signals, and a crystal-based clock circuit 56 for use in tracking real time. The main card 50 additionally includes sufficient nonvolatile and volatile memory including, for example, 64 Mbit EDO DRAM 58 and SRAM/Flash memory 59 that supports the system code."), Shiraishi at 16:11-17:25 ("To the BUS line of the CPU 18, also connected is a storage unit 12. As shown in FIG. 15, the storage unit 12 has a control section 22A storing a control program, and real data section 22B which stores various types of data. The real data section 22B will be described later in detail, but it is to be understood here that the real data section 22B preferably has a ROM and a RAM that store the data…."), Takeshi at [0040] ("FIG. 5 shows a bracelet as an example of the accessory embodying the present invention, as described above. The bracelet 13 includes a circuit board 11 containing a series of circuits from the antenna 1 to the manual input unit 8 and the swing detection unit 10, a power supply unit 9 including a button-shaped battery, and a ring-shaped bracelet. An LED group 6 is provided so as to be visible."), Valade at [0023] ("This implementation of the method of the invention may include an initialization phase in which global activity context information to be associated with an incoming event is stored in memory."), Vong at 7:5-24 ("a camera and microphone/speaker are shown coupled to the auxiliary display unit for receiving audio and video input and generating audio and video output"), Vong at 9:4-28 ("a … user can change a variable associated with a launched application or initiate the launching of an application (e.g., to view email messages on the auxiliary display panel) by way of an input to a device associated with the auxiliary display unit"). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

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In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include controlling hardware to the extent not already disclosed by the Primary Reference.

11. Obviousness Of Call-Related Notifications

The ’633 Asserted Claims recite limitations relating to call-related notifications. For example, these limitations appear in the following claims:

- Claim 10: “wherein said first user-perceivable signals are indicative of an incoming call”
- Claim 13: “wherein said second user-perceivable signals are indicative of a missed call”
- Claim 14: “wherein said first user-perceivable signals are indicative of an incoming call and said second user-perceivable signals are indicative of a calendar notification”
- Claim 15: “wherein said first user-perceivable signals are indicative of an incoming call and said second user-perceivable signals are indicative of a reminder”
- Claim 16: “wherein said first user-perceivable signals are indicative of an incoming call and said second user-perceivable signals are indicative of a missed call”
- Claim 17: “wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said device is configured to receive third wireless communication signals associated with a third event”

- Claim 29: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a missed call"
- Claim 30: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a voice message"
- Claim 31: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a text message"
- Claim 32: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a missed call, and said third user-perceivable signals are indicative of a voice message"
- Claim 33: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a missed call, and said third user-perceivable signals are indicative of a text message"
- Claim 34: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a voice message, and said third user-perceivable signals are indicative of a text message"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose call-related notifications.

- Britt. *See* Ex. I1 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Cannon. *See* Ex. I2 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.

- Fujisawa. *See* Ex. I3 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Hasegawa. *See* Ex. I4 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Hsu. *See* Ex. I5 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- IBM Linux Watch. *See* Ex. I17 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- IBM WatchPad. *See* Ex. I18 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Kita-039. *See* Ex. I6 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Kazuhiro. *See* Ex. I7 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Kita-514. *See* Ex. I19 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Nakatake. *See* Ex. I8 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Narayanaswami. *See* Ex. I9 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Narayanaswami-997. *See* Ex. I10 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Takeshi. *See* Ex. I12 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.
- Valade. *See* Ex. I13 at Claims 10, 13, 14, 15, 16, 17, 29, 30, 31, 32, 33, 34.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing call-related notifications for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing call-related notifications, would have recognized that configuring a mobile communication device to comprise call-related notifications would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0008] ("An apparatus is disclosed which is configured to announce a transmission from a caller by vibrating in a predetermined manner associated with the caller. Also disclosed is a method comprising: receiving a transmission from a first caller; identifying the first caller; and vibrating a device in a predetermined manner based on said first caller's identity."), Cannon at [0023] ("Depending on the type of device which contains the indication unit 100 and the nature of the message (voice message, text message, appointment or other reminder message, etc.), either one of the indicators 135 or 130, or both, will be activated

[redacted]

to notify the user of the pending message which requires his immediate attention."), Casio VIVCEL Watch: "VIVCEL" watch with vibrating alerts for incoming calls on mobile phones at 13 ("As mobile phones began to sweep the world, this watch responded with innovative linked functionality. The VCL-100 sensed signals in the 800 MHz frequency band transmitted by mobile phones to notify users of incoming calls with vibrating alerts."), Fujisawa at [0155] ("In the watch-shaped information processing device 12, the incoming call notification signal is received in the antenna unit 21 and the receiver circuit 23 demodulates the incoming call notification signal to the received data DRX (step S6). This received data DRX includes information to the effect that there is an incoming call, an ID number NID of the watch-shaped information processing device 12, and a telephone number of the caller."), Hasegawa at Abstract ("A portable telephone set for transmitting and receiving signals has an alarm element for generating an alarm signal in response to a preassigned call signal."), Hsu at Abstract ("In disclosed embodiments, a relatively small passive monitor tool provides one or more alerts to a user of a mobile station, to readily notify the user, even if the station is carried in a pocket or purse. In one example, the tool listens for a message on a paging channel of the wireless network, indicating an incoming call or the like intended for the mobile station. Upon detecting the incoming paging signal, the tool provides its own perceptible alert to the user."), IBM Linux Watch YouTube Video at 00:27, IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a

[redacted]

message to his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("WatchPad can be used not only as a stand-along PDA device but also as a secured wireless front-end user interface device for the adjunct devices such as mobile computers, cellular phones, and other pervasive devices being carried with you using its fingerprint sensor and Bluetooth communications."), IBM WatchPad: Is that a PC on your wrist at 1 ("The wristwatch computer works not only as a personal digital assistant, but also as a controller for PCs, using Bluetooth …. IBM, on the other hand, expects the device will be used for browsing the Internet and sending e-mail"), IBM 000192 at IBM 000196-197 ("A second useful scenario for the WatchPad is to allow the user to control the responses to incoming calls. The WatchPad's audio beeper and vibration device can quickly get the user's attention. Once the user's attention is obtained, he can be presented with the call details and also a list of options for responding to the call. . . . When a notification about an incoming call is received, our application audibly notifies the user and takes over the display. As shown in Figure 6 , the name of the calling party is displayed on the screen along with a menu of pre-configured options that allow the user to respond to the call in several different ways:"), [redacted] Kita-039 at [0031] ("In the standby state, monitoring is performed to determine whether communication is possible on the selected channel (step S407) …. If communication is possible, a determination is made as to whether a call has been placed or received (steps S408, S409). If a call has been placed, outgoing call processing is executed (step S411), and if an incoming call has been received, incoming call processing is executed (step

S410).”), Kazuhiro at Claim 2 (“The mobile phone auxiliary device described in claim 1 in which the displayed incoming transmission information is a caller ID of the calling telephone or an email address of the incoming email transmitter…”), Kita-514 at [0155] (“Therefore, according to the function module unit 85 having the wireless communication function, data received by the wireless signal control section 854 through the antenna 855 can be transferred to the body case 6 through the wrist band 4 and displayed on the display section 60.”), Nakatake at [0001] (“The present invention relates to a portable communication terminal for providing notification of an incoming call using the portable communication terminal and a wrist watch, a wrist watch, an incoming call system, and an incoming call method.”), Narayanaswami at 7:67-8:17 (“[C]aller Id information may be displayed on the Wrist Watch display when the cell phone that belongs to that person rings. Typically, multiple persons are congregated in a room and carry their cell phones in a handbag or wear them on their belts, have a hard time determining which cell phone is ringing when a ringing tone is heard in a room. This results in every person in the room pulling out his/her cellphone out of their handbag or belt to check if it is the one that is ringing. The caller Id display feature of the Wrist Watch device is particularly advantageous as each wearer may simply glance at the watch and would immediately know if the ringing phone belonged to him/her, in addition, to determining who the calling party is facilitating the decision of whether or not he/she should answer the phone.”), Narayanaswami-997 at 7:22-52 (“[C]aller Id information may be displayed on the Wrist Watch display when the cell phone that belongs to that person rings. Typically, multiple persons are congregated in a room and carry their cell phones in a handbag or wear them on their belts, have a hard time determining which cell phone is ringing when a ringing tone is heard in a room. This results in every person in the room pulling out his/her cellphone out of their handbag or belt to check if it is the one that is ringing. The caller Id display feature of the Wrist Watch device is

particularly advantageous as each wearer may Simply glance at the watch and would immediately know if the ringing phone belonged to him/her, in addition, to determining who the calling party is facilitating the decision of whether or not he/she should answer the phone."), Nokia 8890 User Guide at 19 ("When someone calls you, the phone alerts you (see "Ringing options" on page 60) and Call flashes on the display."), Takeshi at [0004] ("According to the present invention, the above problem is solved by an incoming call detecting means for detecting an incoming call of a mobile phone, a plurality of flashing illuminators arranged so as to be visible, and responding to the detection of the incoming call by the incoming call detecting means."), Valade at [0019] ("The incoming events managed in the management profiles of the method of the invention can be of any type likely to reach a mobile telephone, for example telephone calls, facsimile messages, SMS text messages, electronic mail messages (e-mails), etc."). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include call-related notifications to the extent not already disclosed by the Primary Reference.

12. Obviousness Of Calendar- And Reminder-Related Notifications

The '633 Asserted Claims recite limitations relating to calendar- and reminder-related notifications. For example, these limitations appear in the following claims:

- Claim 11: "wherein said second user-perceivable signals are indicative of a calendar notification"

- Claim 12: "wherein said second user-perceivable signals are indicative of a reminder"
- Claim 14: "wherein said first user-perceivable signals are indicative of an incoming call and said second user-perceivable signals are indicative of a calendar notification"
- Claim 15: "wherein said first user-perceivable signals are indicative of an incoming call and said second user-perceivable signals are indicative of a reminder"
- Claim 17: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said device is configured to receive third wireless communication signals associated with a third event"
- Claim 29: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a missed call"
- Claim 30: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a voice message"
- Claim 31: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a text message"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose calendar- and reminder-related notifications.

- Britt. *See* Ex. I1 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Cannon. *See* Ex. I2 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Hsu. *See* Ex. I5 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- IBM Linux Watch. *See* Ex. I17 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- IBM WatchPad. *See* Ex. I18 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Kita-039. *See* Ex. I6 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Kita-514. *See* Ex. I19 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Narayanaswami. *See* Ex. I9 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Narayanaswami-997. *See* Ex. I10 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Shiraishi. *See* Ex. I11 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Valade. *See* Ex. I13 at Claims 11, 12, 14, 15, 17, 29, 30, 31.
- Vong. *See* Ex. I14 at Claims 11, 12, 14, 15, 17, 29, 30, 31.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing calendar- and reminder-related notifications for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing calendar and reminder-related notifications, would have recognized that configuring a mobile communication device to comprise calendar and reminder-related notifications would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0028] ("In one embodiment, the user may customize the portal device 150 preferences and content which will be downloaded to the portal device 150 from the portal server 110. This may be accomplished, for example, by selecting certain preferences/content from a portal server 110 Web page (e.g., by using an online programming interface as described below). For example, the user may choose to have each day's to-do list downloaded to his portal device 150 and may also program the device 150 (e.g., via the portal server 110) to continually display the next scheduled event for the day. Various other user interface and content-based data may be transmitted to the portal device 150 from the portal server 110 while still complying with the underlying principles of the invention."), Cannon at [0023] ("Depending on the type of device

which contains the indication unit 100 and the nature of the message (voice message, text message, appointment or other reminder message, etc.), either one of the indicators 135 or 130, or both, will be activated to notify the user of the pending message which requires his immediate attention."), Casio VIVCEL Watch: VIVCEL Manual at 3 ("When the Daily Alarm is turned on, an alarm operation (tone or vibration) is performed for 20 seconds at the present time each day."), Hsu at Abstract ("In disclosed embodiments, a relatively small passive monitor tool provides one or more alerts to a user of a mobile station, to readily notify the user, even if the station is carried in a pocket or purse …. In another example, the tool listens to the access channel for periodic keep-alive signals from the mobile station. When the monitor tool fails to detect such signals from the station, for example, for some interval, the tool provides another perceptible alert to the user. This second alert may indicate low-battery, an out-of-range mobile station, or that the mobile station signals are blocked by some obstacle."), IBM Linux Watch YouTube Video at 00:16, IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("Automated check-in at hotel, air port, hospital, and etc. … Provide the time table at the train/bus station and the flight

[redacted]

information at the airport and the traveler's information at the hotel on the watch face or the display device nearby"), IBM WatchPad: Is that a PC on your wrist at 1 ("The wristwatch computer works not only as a personal digital assistant, but also as a controller for PCs, using Bluetooth …. IBM, on the other hand, expects the device will be used for browsing the Internet and sending e-mail"), Kita-039 at Figures 1 and 12, Kita-514 at [0052] ("FIG. 52 shows a data bank function module table 1665 in which the module identification code is set to "0011" commonly for all data bank module units such as an address book, a schedule book, ... and so on in correspondence."), Narayanaswami at 6:67-7:37 ("A … Synchronization manager 250 is provided to synchronize data between the Wrist Watch and the other devices. Particularly, it receives the data from the communication channel and operates in conjunction with the right application to decode the Sent data and update the data for the application receiving the data. An example of this would be an update to a calendar event."), Narayanaswami-997 at 8:21-29 ("In accordance with the user-selectable application for downloading, displaying and maintaining calendars and appointments, when a current time coincides with a scheduled appointment time, an associated display message may also be displayed in text field 355.), Nokia 8890 User Guide at 96 ("On a PC provided with an appropriate application, you can: Send a calendar note via IR …. Print a calendar note on a compatible printer"), Shiraishi at 40:54-41:3 ("The communication display area 330A,340 is further divided is a notify area 330A which is used for notification of presence of information, e.g., arrival of an electronic mail, and for setting a notify mode which is of a lower hierarchical level, and a memo area 340 which enables advance to a lower-level memo mode that permits inspection of the content of a memo or the like. The schedule display area 350 is an area which performs a display in a schedule display mode or calendar mode in order to show the user's schedule. The database display area 360 is an area which permits opening of a lower-level directory mode which

[redacted]

stores in a sorting manner a list of senders of electronic mails, directory or the like, and a database display mode."), Valade at [0019] ("The incoming events managed in the management profiles of the method of the invention can be of any type likely to reach a mobile telephone, for example telephone calls, facsimile messages, SMS text messages, electronic mail messages (e-mails), etc."), Vong at 7:5-24 ("display panel may adapted for multiple types of information included, but not limited to, calendar information"), Vong at 7:44-8:4 ("The auxiliary display unit 307 may be set to receive display information that may have been part of the domain of the main display unit 207 in conventional computer system environments …. [T]he auxiliary display unit 307 could receive display information normally associated with the task bar, system messages and notification of events (e.g., time, power status, email and messaging notification, printer information, volume control, dialog box notifications of system events etc.) on the main display unit 207."). In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include calendar- and reminder-related notifications to the extent not already disclosed by the Primary Reference.

13. Obviousness Of Message-Related Notifications

The '633 Asserted Claims recite limitations relating to message-related notifications. For example, these limitations appear in the following claims:

- Claim 19: "wherein said first user-perceivable signals are indicative of a voice message"
- Claim 20: "wherein said first user-perceivable signals are indicative of a text message"

[redacted]

- Claim 30: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a voice message"
- Claim 31: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a reminder, and said third user-perceivable signals are indicative of a text message"
- Claim 32: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a missed call, and said third user-perceivable signals are indicative of a voice message"
- Claim 33: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a missed call, and said third user-perceivable signals are indicative of a text message"
- Claim 34: "wherein said first user-perceivable signals are indicative of an incoming call, said second user-perceivable signals are indicative of a voice message, and said third user-perceivable signals are indicative of a text message"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose message-related notifications.

- Britt. *See* Ex. I1 at Claims 19, 20, 30, 31, 32, 33, 34.
- Cannon. *See* Ex. I2 at Claims 19, 20, 30, 31, 32, 33, 34.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 19, 20, 30, 31, 32, 33, 34.
- Fujisawa. *See* Ex. I3 at Claims 19, 20, 30, 31, 32, 33, 34.
- IBM Linux Watch. *See* Ex. I17 at Claims 19, 20, 30, 31, 32, 33, 34.
- IBM WatchPad. *See* Ex. I18 at Claims 19, 20, 30, 31, 32, 33, 34.
- Kita-039. *See* Ex. I6 at Claims 19, 20, 30, 31, 32, 33, 34.
- Kazuhiro. *See* Ex. I7 at Claims 19, 20, 30, 31, 32, 33, 34.
- Kita-514. *See* Ex. I19 at Claims 19, 20, 30, 31, 32, 33, 34.
- Nakatake. *See* Ex. I8 at Claims 19, 20, 30, 31, 32, 33, 34.

- Narayanaswami. *See* Ex. I9 at Claims 19, 20, 30, 31, 32, 33, 34.
- Narayanaswami-997. *See* Ex. I10 at Claims 19, 20, 30, 31, 32, 33, 34.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 19, 20, 30, 31, 32, 33, 34.
- Shiraishi. *See* Ex. I11 at Claims 19, 20, 30, 31, 32, 33, 34.
- Valade. *See* Ex. I13 at Claims 19, 20, 30, 31, 32, 33, 34.
- Vong. *See* Ex. I14 at Claims 19, 20, 30, 31, 32, 33, 34.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing message-related notifications for a number of reasons. Indeed, a PHOSITA would have understood the benefits of providing message-related notifications, would have recognized that configuring a mobile communication device to comprise message-related notifications would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Britt at [0076] ("In one embodiment, the portal device 150 (or other device) may be configured to vibrate/ring a particular way to announce a particular "caller" regardless of the medium through which the "call" is transmitted. For example, returning to the example above, the user of the portal device 150 may configure the device (in conjunction with the portal sever 110) to vibrate/ring in the same manner for emails, IP telephony calls, instant messages, etc., transmitted by Caller A (i.e., in addition to standard telephone calls). Alternatively, or on addition, the portal device 150 may be configured to vibrate/ring in a slightly different manner when Caller A transmits an email message than when Caller A makes a telephone call. For example, the vibration/ring pattern may be the same but it may be followed by an additional vibration/ring. Alternatively, or in addition, the speed of the vibration/ring pattern may be different. Various other vibration/ring patterns may be employed to identify "callers" consistent with the underlying principles of the invention."), Cannon at [0023] ("Depending on the type of device which contains the indication unit 100 and the nature of the message (voice message, text message, appointment or other reminder message, etc.), either one of the indicators 135 or 130, or

both, will be activated to notify the user of the pending message which requires his immediate attention."), Casio VIVCEL Watch: VIVCEL Manual at 2 ("VIVCEL operates by picking up signals from your cell phone[;] a paging operation may also be triggered by an outgoing call or even while a call is in progress. A paging operation can also be triggered by another cell phone or other device operating on the same frequency as your cell phone."), Fujisawa at [0138] ("A voice codec 38 decodes output signals of the central control circuit 25 to output voice data to a voice interface unit (voice I/F unit) 39. Also, the voice codec 38 encodes voice data from the voice interface unit 39 to output to the central control circuit 25."), IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM WatchPad: Is that a PC on your wrist at 1 ("The wristwatch computer works not only as a personal digital assistant, but also as a controller for PCs, using Bluetooth …. IBM, on the other hand, expects the device will be used for browsing the Internet and sending e-mail"), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("Viewer device-Check PIM data and e-mail in ThinkPad without opening the lid"), Kita-039 at [0067] ("Therefore, as depicted in FIG. 12, if a user U carries the parent terminal A in a breast pocket or the like and wears the child terminal B-

2 on their arm, the user can display incoming messages and e-mails as depicted in FIG. 12(b), and can read and display e-mails and files as depicted in FIG. 12(c).”), Narayanaswami at 2:48-55 (“Further advantages and features include the provision of a mechanism for enabling input of a text message for association with a set alarm [and] the activation of a Set alarm at the Set time including simultaneously displaying the associated text message.”), Kazuhiro at Claim 2 (“The mobile phone auxiliary device described in claim 1 in which the displayed incoming transmission information is a caller ID of the calling telephone or an email address of the incoming email transmitter…”), Kita-514 at [0406] (“FIG. 56 shows a wireless processing system (communication system) function module table 1669 in which the module identification code is set to "0111" commonly for all output processing function module units such as general wireless communication, general wireless reception, ... and so on in correspondence.”), Nakatake at [0026] (“In FIG. 4, when a mobile phone 2 receives data from a base station 1, the mobile phone notifies the wrist watch 3a of the receipt of data by wireless communication. The wrist watch 3a receives the notification that data has been received and notifies the user in the same manner as for a voice call”), Narayanaswami at 9:7-31 (“The Wrist Watch may receive text information associated with an alarm by manually entering a text String via a keypad or keyboard, or inputting a text String from an external Source, e.g., the user's PC, implementing a known data exchange mechanism. For instance, an alarm actually may come from Some other Source, for example, the user's PC which maintains a list of appointments for the user with one of the appointments having an associated alarm indicating what the appointment was. Then, that information may be input to the Wrist Watch, such that the watch may Subsequently activate the alarm at the programmed time, and accordingly indicate the associated text.”), Narayanaswami-997 at 8:4-40 (“The watch may additionally display for the user the reason for an alarm activation, via the message text provided

[redacted]

in the portion 355 above the elliptical watch face 361. This message may comprise a brief title or, optionally, longer more descriptive text associated with the alarm indicated by an icon."), Nokia 8890 User Guide at 96 ("On a PC provided with an appropriate application, you can: … Print a text message on a compatible printer."), Shiraishi at 40:54-41:3 ("The communication display area 330A,340 is further divided is a notify area 330A which is used for notification of presence of information, e.g., arrival of an electronic mail, and for setting a notify mode which is of a lower hierarchical level, and a memo area 340 which enables advance to a lower-level memo mode that permits inspection of the content of a memo or the like. The schedule display area 350 is an area which performs a display in a schedule display mode or calendar mode in order to show the user's schedule. The database display area 360 is an area which permits opening of a lower-level directory mode which stores in a sorting manner a list of senders of electronic mails, directory or the like, and a database display mode."), Valade at [0019] ("The incoming events managed in the management profiles of the method of the invention can be of any type likely to reach a mobile telephone, for example telephone calls, facsimile messages, SMS text messages, electronic mail messages (e-mails), etc."), Vong at 7:5-24 ("The display panel may adapted for multiple types of information included, but not limited to, calendar information, number of voice mail messages, number of email messages, time-of-day, and information regarding a multimedia player."), Vong at 7:44-8:4 ("Also, the auxiliary display unit 307 could receive display information normally associated with the task bar, system messages and notification of events (e.g., time, power status, email and messaging notification, printer information, volume control, dialog box notifications of system events etc.) on the main display unit 207."). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose

[redacted]

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

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include message-related notifications to the extent not already disclosed by the Primary Reference.

14. Obviousness Of Sending Wireless Communication Signals To The Associated Device

The ’633 Asserted Claims recite limitations relating to sending wireless communication signals to the associated device. For example, these limitations appear in the following claims:

- Claim 22: “wherein said device is operable to send wireless communication signals to said mobile telephonic device”
- Claim 23: “wherein said wireless communication signals operable to be sent to said mobile telephonic device comprise wireless communication signals to answer an incoming call”
- Claim 24: “wherein said wireless communication signals operable to be sent to said mobile telephonic device comprise voice signals”
- Claim 25: “wherein said wireless communication signals operable to be sent to said mobile telephonic device comprise wireless communication signals to answer an incoming call and wireless communication signals comprising voice signals”
- Claim 26: “wherein said wireless communication signals comprising voice signals comprise voice signals operable to be utilized by said mobile telephonic device for an active call”
- Claim 35: “wherein said device is operable to send wireless communication signals to said mobile telephonic device”

[redacted]

- Claim 36: "wherein said wireless communication signals operable to be sent to said mobile telephonic device comprise wireless communication signals to answer an incoming call"
- Claim 37: "wherein said wireless communication signals operable to be sent to said mobile telephonic device comprise voice signals"
- Claim 38: "wherein said wireless communication signals operable to be sent to said mobile telephonic device comprise wireless communication signals to answer an incoming call and wireless communication signals comprising voice signals"
- Claim 39: "wherein said wireless communication signals comprising voice signals comprise voice signals operable to be utilized by said mobile telephonic device for an active call"

To the extent any Primary Reference does not disclose these limitations, that Primary Reference could be combined with one or more of the following references that disclose sending wireless communication signals to the associated device.

- Cannon. *See* Ex. I2 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Casio VIVCEL Watch. *See* Ex. I16 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Fujisawa. *See* Ex. I3 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Hasegawa. *See* Ex. I4 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- IBM Linux Watch. *See* Ex. I17 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- IBM WatchPad. *See* Ex. I18 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Kita-039. *See* Ex. I6 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Kazuhiro. *See* Ex. I7 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Kita-514. *See* Ex. I19 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Nakatake. *See* Ex. I8 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Narayanaswami. *See* Ex. I9 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Narayanaswami-997. *See* Ex. I10 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Nokia 8890 User Guide. *See* Ex. I15 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Shiraishi. *See* Ex. I11 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.
- Takeshi. *See* Ex. I12 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.

- Vong. *See* Ex. I14 at Claims 22, 23, 24, 25, 26, 35, 36, 37, 38, 39.

A PHOSITA would have been motivated and found it obvious to combine and apply the teachings of the foregoing references disclosing sending wireless communication signals to the associated device for a number of reasons. Indeed, a PHOSITA would have understood the benefits of sending wireless communication signals to the associated device, would have recognized that configuring a mobile communication device to comprise sending wireless communication signals to the associated device would provide benefits to the mobile communication device and in a mobile communication system, and would have been motivated to incorporate these features into mobile communication devices accordingly. *See, e.g.*, Cannon at [0023] ("When the user returns to the vicinity of the wireless device, the communication link 310 is reestablished between watch 300 and transceiver 140 and the BLUETOOTH™ transceiver 140 sends a control signal to the controller 125 which then consults message storage unit 145 and determines whether a new message has been received during the time period in which the communication channel 310 was broken."), Casio VIVCEL Watch: VIVCEL Manual at 2 ("VIVCEL operates by picking up signals from your cell phone[;] a paging operation may also be triggered by an outgoing call or even while a call is in progress. A paging operation can also be triggered by another cell phone or other device operating on the same frequency as your cell phone."), Casio VIVCEL Watch: VIVCEL Manual at 2 ("The VIVCEL paging function operated by picking up signals from your cell phone. The sensitivity setting determines how close a cell phone has to be form the watch for it to pick up these signals. Watch Setting [:] HIGH[,] Approximate Distance[:] 1 meter (40 inches)[,] When to use[:] When your phone is in a pocket that is away from the watch. Watch Setting [:] LOW[,] Approximate Distance[:] 50 centimeters (20 inches)[,] When to use[:] When your phone is located near the watch. When there are other

[redacted]

cell phone users nearby."), Casio VIVCEL Watch: "VIVCEL" watch with vibrating alerts for incoming calls on mobile phones at 13 ("As mobile phones began to sweep the world, this watch responded with innovative linked functionality. The VCL-100 sensed signals in the 800 MHz frequency band transmitted by mobile phones to notify users of incoming calls with vibrating alerts."), Fujisawa at [0021] ("Or the control unit may, by using the transmitter-receiver unit, sends to the mobile telephone, as the instruction signal, a signal that instructs the mobile telephone to make a communication link between the radio communication device and the caller's communication device via the mobile telephone."), Fujisawa at [0044] ("Also, during the processing for the incoming call, the control unit sends a connection request to a network, makes a communication link between the mobile telephone and the caller's communication device, and sends to the caller's communication device a message for the caller via the communication link."), Hasegawa at Abstract ("The telephone set comprises a main unit for transmitting and receiving the signals containing the call signal, and a subunit, remote from and coupled to the main unit either electronically or by a cable, for mutually communicating with the main unit. The subunit receives the alarm signal when the alarm element is in the silent mode and produces an indication at the subunit that the main unit has received a preassigned call signal. The subunit can also include means for sending commands to the main unit."), IBM Linux Watch: The Challenge of Miniaturization at 33 ("A businessman carrying a garment bag and briefcase hurries down a Chicago street, looking at his watch. An ordinary event, except that the watch is giving him a traffic report instead of the time …. A few blocks later, the watch vibrates, indicating a new message—e-mail from his son: 'Dad, don't forget my Chicago Cubs cap.' He also has a message from his secretary, who has gotten him a seat on the 12:20 p.m. flight and bumped his afternoon meeting with the marketing director to 4:00 p.m. Speaking into the watch, he sends a message to

his wife's cell phone: 'Flight delay. Can't pick up Rob after baseball.' At the airport newsstand, the watch vibrates again, this time with a text message from his wife saying that their son has a ride home with a friend. He heads for the gate with the Cubs cap in his briefcase."), IBM WatchPad: IBM WatchPad 1.5 at 1 ("Bluetooth short range wireless connectivity (voice-enabled)"), IBM WatchPad: WatchPad 1.5 Bluetooth applications at 1 ("WatchPad can be used not only as a stand-along PDA device but also as a secured wireless front-end user interface device for the adjunct devices such as mobile computers, cellular phones, and other pervasive devices being carried with you using its fingerprint sensor and Bluetooth communications …. In / out device-Input by text/speech, voice output, and warning by vibration"), Kazuhiro at Claim 3 ("The mobile phone auxiliary device described in claim 1 or 2 further provided with an operation means for making an instruction for the mobile wireless device to execute reply processing to an incoming transmission at the determination of the user on the basis of incoming transmission information displayed on the display means when an incoming transmission notification signal is received from the mobile wireless device, and a transmission means for transmitting instruction content selected with the operation means to the mobile wireless device."), Kita-039 at [0031] ("In the standby state, monitoring is performed to determine whether communication is possible on the selected channel (step S407) …. If communication is possible, a determination is made as to whether a call has been placed or received (steps S408, S409). If a call has been placed, outgoing call processing is executed (step S411), and if an incoming call has been received, incoming call processing is executed (step S410)."), Kazuhiro at [0015] ("In FIG. 1, when the mobile phone 2 receives a voice call from a base station 1, the mobile phone notifies the wrist watch 3 that the voice call has occurred. The wrist watch 3 notifies the user of the incoming voice call by displaying the information on the LCD 33 or lighting an LED (not depicted), and provides a voice call service

using an attached earphone 34 and microphone 35 upon request by the user."), Kita-514 at [0156] ("It is also possible to transmit data from the wireless signal control section 854 through the antenna 855 by manipulating the key sections 62 on the body case 6."), Narayanaswami at 7:67-8:17 ("Thus, this application Software enables communication between the other device and the Wrist Watch by receiving/displaying the data and transmitting back information Sent from the Wrist Watch."), Narayanaswami-997 at 7:27-52 ("[T]his application software enables communication between the other device and the Wrist Watch by receiving/displaying the data and transmitting back information sent from the Wrist Watch."), Nokia 8890 User Guide at 96 ("To receive data from another compatible phone…"), Shiraishi at 19:18-25 ("For the purpose of recording a voice memo, the user presses the recording button 14E, thereby opening a window as shown in FIG. 13A, whereby the device is ready for recording the user's voice. Upon recognition of the voice, the display screen 130 starts to blink as shown in FIG. 13B to indicate that the voice is being recorded. When the user stops to speak, the recording is automatically ceased, and a next window 134 of a low-level is opened."), Takeshi at [0010] ("Furthermore, an accessory having an incoming call notification function, a glowing accessory with the incoming call notification function turned off, an accessory that glows with movement of the accessory, such as shaking, and a glow with movement of the body wearing the accessory. When an incoming call from a mobile phone is detected in a state where it is possible, four types of states can be detected by operating the switch: Be able to switch."), Vong at 9:4-28 ("It should be understood that although the host computer routes certain display functionality to a display unit, the main display unit of the host computer might simultaneously handle that display functionality as well. This allows information to be displayed and possibly acted on at various locations …. [T]he auxiliary display units that display a notification [may be] configured or authorized to allow a user to change a variable

[redacted]

associated with the email application (e.g., number of waiting messages) and access the email message by way of an input device associated with the particular auxiliary display unit."). A PHOSITA would also have had a reasonable expectation of success. A PHOSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

In light of these exemplary disclosures, a PHOSITA would be motivated to modify any Primary Reference to include sending wireless communication signals to the associated device to the extent not already disclosed by the Primary Reference.

D. Invalidity Under 35 U.S.C. § 112

Samsung provides below its preliminary invalidity contentions under § 112.

1. Legal Background Regarding the Indefiniteness, Enablement, and Written Description Requirements

Samsung incorporates by reference the legal background section on § 112 for the '575 Patent as if fully set forth herein. *See* Section II.D.1.

2. Invalidity Grounds Under 35 U.S.C. § 112

The identified grounds noted below both individually and collectively render the '949 Asserted Claims invalid under the statutory requirements of § 112. By identifying certain claim language below, Samsung does not imply that such language is entitled to any patentable weight when comparing the claim as a whole to the prior art.

a. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

The '633 Asserted Claims fail to satisfy the requirements of § 112, ¶ 2 because the scope of the terms listed below cannot be determined with reasonable certainty by a PHOSITA when reading the claims in light of the specification and prosecution history.

- "receive first wireless communication signals associated with a first event and second wireless communication signals associated with a second event from said

[redacted]

mobile telephonic device, wherein said first event and second event are different" (claim 1)

- "said device includes motion sensing operable to distinguish between a plurality of different types of motion" (claim 1)
- "receive third wireless communication signals associated with a third event[, wherein each of said first event, second event, and third event is different]" (claims 17, 27)
- "user-perceivable notification signals that are dependent upon said [] [first/second/third] communication signals" (claims 1, 27)
- "user-perceivable notification signals" (claims 1, 27)
- "said [first/second/third] user-perceivable signals" (claims 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 28, 29, 30, 31, 32, 33, 34)
- "wherein at least one of said plurality of different types of motion is a human motion" (claim 18)
- "a type of user-perceivable signal for said first user-perceivable signals that is different than a type of user-perceivable signal for said second user-perceivable signals"/"different types of user-perceivable signals for each of said first user-perceivable signals, said second user-perceivable signals, and said third user-perceivable signals" (claims 21, 28)

b. Lack of Enablement Under 35 U.S.C. § 112, ¶ 1

The '633 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an enabling disclosure of at least the following claim limitations:

- "receive first wireless communication signals associated with a first event and second wireless communication signals associated with a second event from said mobile telephonic device, wherein said first event and second event are different" (claim 1)
- "said device includes motion sensing operable to distinguish between a plurality of different types of motion" (claim 1)
- "receive third wireless communication signals associated with a third event[, wherein each of said first event, second event, and third event is different]" (claims 17, 27)

- "user-perceivable notification signals that are dependent upon said [] [first/second/third] communication signals" (claims 1, 27)

- "user-perceivable notification signals" (claims 1, 27)

- "said [first/second/third] user-perceivable signals" (claims 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 28, 29, 30, 31, 32, 33, 34)

- "wherein at least one of said plurality of different types of motion is a human motion" (claim 18)

- "a type of user-perceivable signal for said first user-perceivable signals that is different than a type of user-perceivable signal for said second user-perceivable signals"/"different types of user-perceivable signals for each of said first user-perceivable signals, said second user-perceivable signals, and said third user-perceivable signals" (claims 21, 28)

c. Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The '633 Asserted Claims fail to satisfy the requirements of § 112, ¶ 1 because the specification, original application, and other materials that are properly incorporated by reference fail to provide an adequate written description of at least the following claim limitations.

- "receive first wireless communication signals associated with a first event and second wireless communication signals associated with a second event from said mobile telephonic device, wherein said first event and second event are different" (claim 1)

"said device includes motion sensing operable to distinguish between a plurality of different types of motion" (claim 1)

- "receive third wireless communication signals associated with a third event[, wherein each of said first event, second event, and third event is different]" (claims 17, 27)

- "user-perceivable notification signals that are dependent upon said [] [first/second/third] communication signals" (claims 1, 27)

- "user-perceivable notification signals" (claims 1, 27)

- "said [first/second/third] user-perceivable signals" (claims 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 28, 29, 30, 31, 32, 33, 34)

- "wherein at least one of said plurality of different types of motion is a human motion" (claim 18)

- "a type of user-perceivable signal for said first user-perceivable signals that is different than a type of user-perceivable signal for said second user-perceivable signals"/"different types of user-perceivable signals for each of said first user-perceivable signals, said second user-perceivable signals, and said third user-perceivable signals" (claims 21, 28)

XI. SUBJECT MATTER ELIGIBILITY CONTENTIONS

All of the Asserted Claims are directed to abstract ideas and lack an inventive concept, and are therefore ineligible for patent protection under the subject matter requirements of Section 101 of the Patent Act. Subject matter eligibility claim charts for the Asserted Claims are attached as Exhibits J1 through J9.

XII. DOCUMENT PRODUCTION ACCOMPANYING INVALIDITY CONTENTIONS

Documents required to be produced under the Court's Docket Control Order (Dkt. No. 30) and Patent Local Rule 3-4 are being produced to Mullen under a separate letter or will be made available for inspection.

Samsung reserves the right to produce and rely on additional documents relating to its products in view of, for example, additional information revealed during discovery regarding the content of Mullen's allegations and/or amendments to Mullen's Infringement Contentions.

XIII. OTHER RESERVATIONS AND EXPLANATIONS

These Invalidity Conditions and the documents that Samsung produces are provisional and subject to further revision as follows. Nothing in these contentions constitutes an admission concerning the priority date, conception date, or date of reduction to practice of the Asserted Claims. Mullen has asserted specific priority dates in its Infringement Contentions. But Mullen has not produced any documents evidencing prior conception and reduction to practice. If the Court finds that Mullen is entitled to a different priority date, or Mullen attempts to argue for a

different priority date, Samsung reserves the right to serve additional or modified invalidity contentions.

For prior art patents and prior art publications identified in these Invalidity Contentions, Samsung reserves the right to rely on the public use, offer for sale, sale, and/or actual products embodying the methods and systems described therein uncovered during discovery. Samsung also reserves the right to rely upon any related patents and patent applications, foreign patent counterparts and foreign patent applications of U.S. patents identified in these Invalidity Contentions, and U.S. counterparts of foreign patents and foreign patent applications identified in these Invalidity Contentions.

The Court has not yet construed any of the terms in the Asserted Patents as part of this case. Accordingly, Samsung's Invalidity Contentions are based in part on Samsung's present understanding of the Asserted Claims and Mullen's apparent interpretation of these claims as reflected in its Infringement Contentions. By including prior art that anticipates or renders obvious claims based on Mullen's apparent claim interpretations, Samsung is not agreeing that Mullen's claim interpretations are correct.

The accompanying invalidity claim charts provide examples of prior art that discloses, either expressly or inherently, every limitation of certain claims and/or teachings, suggestions and motivations through which a PHOSITA at the time of the alleged invention would have considered the limitations obvious based on the state of the art at the time, the differences between the claimed invention and the state of the art, and the foreseeability from a technical perspective and/or marketing and/or natural and expected evolution of the art. Where Samsung cites to a particular figure in a reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure. Conversely, where Samsung cites to particular

text referring to a figure, the citation should be understood to include the figure as well. As discovery progresses and the scope and focus of the liability issues become clearer, Samsung may rely on uncited portions of the prior art.

Samsung reserves the right to revise their ultimate contentions concerning the invalidity of asserted the Asserted Claims, which may change depending upon discovery taken in the case, the Court's construction of the Asserted Claims, any findings as to the priority date of the Asserted Claims, and/or positions that Mullen or expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues.

Samsung may rely on Mullen's or any inventor's admissions concerning the scope of prior art relevant to the Asserted Patents; the patent prosecution histories for the Asserted Patents; any deposition testimony of the named inventors on the Asserted Patents; and the papers filed and any evidence submitted by Mullen in connection with this litigation. For example, Samsung reserves the right to assert that the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the event that Samsung obtains evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed in the Asserted Patents. Should Samsung obtain such evidence, it will provide the name(s) of the person(s) from whom and the circumstances under which the claimed invention or any part of it was derived.

Prior art not included in this disclosure, whether known or not known to Samsung, may become relevant. In particular, Samsung is currently unaware of the extent, if any, to which Mullen will contend that limitations of the Asserted Patents are not disclosed in the prior art identified by Samsung. To the extent such an issue arises, Samsung reserves the right to identify other references that would render obvious the allegedly missing limitation(s) of the disclosed device or method. Further, because discovery has only recently begun and because Samsung has not yet

[redacted]

completed their search for or analysis of relevant prior art, Samsung reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should Samsung's further search and analysis yield additional information or references, consistent with the Federal Rules of Civil Procedure.

Additionally, because third-party discovery is not yet complete, Samsung reserves the right to present additional items of prior art under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or § 103, located during the course of such discovery or further investigation, and to assert invalidity under 35 U.S.C. § 101 and/or 35 U.S.C. §§ 102(c), (d), and/or (f), to the extent that such discovery or investigation yields information forming the basis for such invalidity. For example, Samsung expects to issue subpoenas to, and receive information from, third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed below and/or additional prior art. These third parties include, without limitation, the authors, inventors, vendors, or assignees of the references listed in these disclosures.

Samsung further reserves the right to modify or add additional contentions in the event that Mullen provides amended infringement contentions and to the extent the Court orders or allows Mullen to amend its infringement contentions.

Pursuant to the Court's Docket Control Order (Dkt. No. 30) and Patent Local Rule 3-3, and in light of Mullen's Infringement Contentions and accompanying claim charts, Samsung lists in these Invalidity Contentions the prior art now known to it that it contends anticipates or renders obvious the Asserted Claims. Although Samsung has identified at least one disclosure of a limitation for each prior art reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Samsung's cites are only representative portions of an identified reference, even where a reference may contain additional

support for a particular claim limitation. PHOSITAs generally read an item of prior art as a whole and in the context of other publications and literature. Thus, to understand and interpret any specific statement or disclosure within a prior art reference, such persons would rely on other information within the reference, along with other publications and their general scientific knowledge. Samsung may rely upon uncited portions of the prior art references and on other publications and expert testimony to provide context, and as aids to understanding and interpreting the portions that are cited.

Samsung incorporates in these Invalidity Contentions, in full, all prior art references cited in the Asserted Patents and their prosecution histories and any applicable post-grant proceedings, including *inter partes* reviews (currently pending or otherwise).

Subject to Samsung's reservation of rights, Samsung identifies each item of prior art that anticipates and/or renders obvious the Asserted Claims. The patents/applications, publications, and systems identified are also relevant to show the state of the art and reasons and motivations for making improvements, additions, and combinations.

Samsung also contends that the Asserted Patents are invalid based on public knowledge and uses and/or offers for sale or sales of products and services that are under 35 U.S.C. § 102(a) and/or 35 U.S.C. § 102(b) and/or prior inventions made in this country by other inventors who had not abandoned, suppressed, or concealed them under 35 U.S.C. § 102(g).

Samsung also reserves the right to rely on any system, public knowledge or use embodying or otherwise incorporating any of the prior art disclosed herein alone or in combination. Samsung further reserves the right to rely on any other documents or references describing any such system, knowledge or use.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions

the content, discussion, and disclosures of any filings made in any past or future reexamination proceedings concerning the Asserted Patents, including any IPR petitions, supporting expert declarations or testimony, and prior art references cited therein, including each of the IPR petitions filed by Apple Inc. and referenced by Mullen's Infringement Contentions, copies of which were produced by Mullen in this litigation. *See* MIL_008551-057185.

Samsung also incorporates by reference as if set forth fully in these Invalidity Contentions the content, discussion, and disclosures of any filings made in any past or future district court proceedings concerning the Asserted Patents, including all Invalidity Contentions and related disclosures in Mullen's lawsuit against Apple, copies of which were produced by Mullen in this litigation. *See* MIL_057543-060478.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via electronic mail.

Dated: January 20, 2025 *<u>/s/ Brian Treggs</u>*

Brian Treggs