

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

GAMBA GROUP HOLDINGS LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS AMERICA, INC.

Defendants.

Case No. 2:25-cv-00438-JRG

**DEFENDANTS' INVALIDITY CONTENTIONS AND
P.R. 3-3 AND 3-4 DISCLOSURES**

Pursuant to Local Patent Rules (“P.R.”) 3-3 and 3-4 and the Order Setting Scheduling Conference (Dkt. No. 6), Defendants Samsung Electronics Co., Ltd. (“SEC”) and Samsung Electronics America, Inc. (“SEA”) (collectively, “Defendants”) provide Defendants’ Invalidity Contentions and P.R. 3-3 and 3-4 Disclosures (“Invalidity Contentions”) concerning U.S. Patent No. 9,961,507 (the “’507 Patent”), U.S. Patent No. 9,674,684 (the “’684 Patent”), and U.S. Patent No. 9,772,193 (the “’193 Patent”) (together, the “Asserted Patents”). These contentions set forth Defendants’ preliminary Invalidity Contentions with respect to the claims that were identified by Plaintiff Gamba Group Holdings LLC (“Plaintiff” or “Gamba”) in its Plaintiff’s Disclosure of Asserted Claims And Infringement Contentions as to Samsung Electronics Co., Ltd.; Plaintiff’s Disclosure of Asserted Claims And Infringement Contentions as to Samsung Electronics America, Inc.; served July 2, 2025 (“Infringement Contentions”).

Defendants are also producing, concurrently with these Invalidity Contentions, documents required by P.R. 3-4, including copies of prior art references required by P.R. 3-4(b).

I. INTRODUCTORY STATEMENT

Plaintiff has asserted the following claims against Defendants in Case No. 2:25-cv-00438-JRG (E.D. Tex.):

U.S. Patent No.	Asserted Claims
9,674,684	52, 53
9,961,507	57, 58, 59, 63, 64, 77, 78
9,772,193	12, 13, 15, 16, 17, 18

(See Plaintiff's Disclosure of Asserted Claims and Infringement Contentions (P.R. 3-1).) These claims are collectively referred to as "the Asserted Claims." The Asserted Claims of the '684, '507, and '193 Patents, however, are neither novel nor non-obvious in view of the state of the prior art and the understanding of a person of ordinary skill in the art at the time of the alleged inventions ("POSITA"). The Asserted Claims are also invalid for lack of written description, lack of enablement, and/or indefiniteness under 35 U.S.C. § 112, as explained herein.

In accordance with P.R. 3-3(a)-(d), Defendants hereby: (a) identify each currently known item of prior art that either anticipates or renders obvious each asserted claim; (b) specify (i) whether each such item of prior art anticipates each asserted claim and/or renders it obvious, and (ii) if a combination of items of prior art renders a claim obvious, identify each such combination and the motivation to combine such items; (c) submit a chart identifying where each element in each asserted claim is disclosed, described, or taught in the prior art, and the identity of the structure(s), act(s), or material(s) in each item of prior art that performs the claimed function in the case of means-plus-function elements under 35 U.S.C. § 112, ¶ 6; and (d) identify the grounds for invalidating the Asserted Claims based upon indefiniteness under 35 U.S.C. § 112, ¶ 2 or enablement or written description under 35 U.S.C. § 112, ¶ 1, with respect to each asserted claim and based upon Defendants' investigation to date.

The initial Invalidity Contentions provided herein by Defendants are preliminary and subject to revision as provided in the Local Rules, the Federal Rules of Civil Procedure, and/or any Order of this Court. For example, these Invalidity Contentions are based on Defendants' current knowledge, understanding, and belief as to the facts and information available at this time. Defendants have not yet completed their investigation, collection of information, discovery, or analysis relating to this action, and additional facts and information may require Defendants to supplement or modify these Invalidity Contentions.

Furthermore, Defendants intend to diligently seek documents from third parties in discovery to demonstrate such third parties' earlier dates of invention under 35 U.S.C. § 102(g) and/or prior art offers for sale and public uses of products embodying the claimed invention under 35 U.S.C. § 102(b) or under 35 U.S.C. § 102(a). Defendants therefore reserve the right to supplement these Invalidity Contentions with further information and documentation, if and when it becomes available.

Defendants also reserve their right to supplement and/or amend these Invalidity Contentions after the Court has construed disputed claim terms. Defendants' contentions concerning the validity of the Asserted Claims may change based upon the Court's construction of the claims or positions that Gamba takes concerning infringement or validity issues after such construction. Moreover, given the inadequacies in Gamba's Infringement Contentions, Defendants have used their best efforts to understand how Gamba is construing the Asserted Claims for purposes of identifying invalidating prior art. Nothing contained in these Invalidity Contentions or any accompanying Exhibits, however, should be understood or deemed to be an express or implied admission or contention with respect to the proper construction or scope of any terms in the Asserted Claims, nor should they be understood to adopt Gamba's stated claim construction or its

proposed scope of the Asserted Claims. Defendants' Invalidity Contentions merely consider Gamba's apparent application of the Asserted Claims to the accused products¹ under the principle that the scope of the claim must be the same for invalidity as it is for infringement.

¹ According to Gamba's Complaint and its P.R. 3-1 Disclosures (and without conceding they are properly accused), the Accused Products or Accused Instrumentalities are as follows: Samsung Galaxy SmartTag (EI-T5300), Samsung Galaxy SmartTag+ (EI-T7300), and Samsung Galaxy SmartTag2 (EI-T5600); Galaxy Fold, Galaxy Fold 5G, Galaxy Z Fold, Galaxy Z Fold 2, Galaxy Z Fold 3, Galaxy Z Fold 4, Galaxy Z Fold 5, and Galaxy Z Fold 6; Galaxy Z Flip, Galaxy Z Flip 5G, Galaxy Z Flip 3, Galaxy Z Flip 4, Galaxy Z Flip 5, and Galaxy Z Flip 6; Galaxy S5, Galaxy S5 mini, and Galaxy S5 Neo; Galaxy S6, Galaxy S6 Edge, Galaxy S6 Edge+, and Galaxy S6 Active; Galaxy S7, Galaxy S7 Edge, and Galaxy S7 Active; Galaxy S8, Galaxy S8+, and Galaxy S8 Active; Galaxy S9, Galaxy S9+, and Galaxy S9 Active; Galaxy S10, Galaxy S10e, Galaxy S10+, Galaxy S10 5G, and Galaxy S10 Lite; Galaxy S20, Galaxy S20 5G, Galaxy S20+, Galaxy S20+ 5G, Galaxy S20 Ultra, Galaxy S20 Ultra LTE/5G, Galaxy S20 FE, Galaxy S20 FE 5G, Galaxy S20 FE 2022, and Galaxy S20 5G UW; Galaxy S21, Galaxy S21 5G, Galaxy S21 FE 5G, Galaxy S21+ 5G, Galaxy S21 Ultra 5G; Galaxy S22 5G, Galaxy S22+ 5G, Galaxy S22 Ultra 5G; Galaxy S23, Galaxy S23+, Galaxy S23 Ultra, Galaxy S23 FE; Galaxy S24, Galaxy S24+, Galaxy S24 Ultra, Galaxy S24 FE; Galaxy S25, Galaxy S25 Ultra, Galaxy S25 Edge, Galaxy S25+; Galaxy A3 (2017), Galaxy A5 (2017), Galaxy A7 (2017); Galaxy A6 (2018), Galaxy A6+ (2018), Galaxy A6s (2018), Galaxy A7 (2018), Galaxy A8 (2018), Galaxy A8+ (2018), Galaxy A8 Star (2018), Galaxy A8s (2018), Galaxy A9 (2018); Galaxy A2 Core (2019), Galaxy A10e (2019), Galaxy A10 (2019); Galaxy A10s (2019), Galaxy A20e (2019), Galaxy A20 (2019), Galaxy A20s (2019), Galaxy A30 (2019), Galaxy A30s (2019), Galaxy A40 (2019), Galaxy A50 (2019), Galaxy A50s (2019), Galaxy A60 (2019), Galaxy A70 (2019), Galaxy A80 (2019), Galaxy A90 5G (2019); Galaxy A01 Core (2020), Galaxy A01 (2020), Galaxy A11 (2020), Galaxy A21 (2020), Galaxy A21s (2020), Galaxy A31 (2020), Galaxy A41 (2020), Galaxy A51 (2020), Galaxy A51 5G (2020), Galaxy A51 5G UW (2020), Galaxy A71 (2020), Galaxy A71 5G (2020), Galaxy A71 5G UW (2020); Galaxy A02 (2021), Galaxy A02s (2021), Galaxy A12 (2021), Galaxy A22 (2021), Galaxy A22 5G (2021), Galaxy A32 (2021), Galaxy A32 5G (2021), Galaxy A42 5G (2021), Galaxy A52 (2021), Galaxy A52 5G (2021), Galaxy A52s 5G (2021), Galaxy A72 (2021); Galaxy A03 Core (2022), Galaxy A03 (2022), Galaxy A03s (2022), Galaxy A13 (2022), Galaxy A13 5G (2022), Galaxy A23 (2022), Galaxy A23 5G (2022), Galaxy A33 5G (2022), Galaxy A53 5G (2022), Galaxy A73 5G (2022); Galaxy A04e (2023), Galaxy A04 (2023), Galaxy A04s (2023), Galaxy A14 (2023), Galaxy A14 5G (2023), Galaxy A24 (2023), Galaxy A34 5G (2023), Galaxy A54 (2023); Galaxy A05 (2024), Galaxy A05s (2024), Galaxy A15 (2024), Galaxy A15 5G (2024), Galaxy A25 5G (2024), Galaxy A35 (incl. 5G) (2024), Galaxy A55 (incl. 5G) (2024); Galaxy A06 (2025); Galaxy A56 (2025), Galaxy A36 (2025), Galaxy A26 (2025); Galaxy A16 (2024), Galaxy A16 5G (2024); Galaxy F16 5G (2025), Galaxy F06 5G (2025), Galaxy F55 (2024), Galaxy F15 (2024); Galaxy M10 (2019), Galaxy M10s (2019), Galaxy M20 (2019), Galaxy M30 (2019), Galaxy M30s (2019), Galaxy M40 (2019); Galaxy M01 (2020), Galaxy M01s (2020), Galaxy M11 (2020), Galaxy M21 (2020), Galaxy M21s (2020), Galaxy M31 (2020), Galaxy M31s (2020), Galaxy M51 (2020); Galaxy M02 (2021), Galaxy M02s (2021), Galaxy M12 (2021), Galaxy M22 (2021), Galaxy M32 (2021), Galaxy M32 5G (2021), Galaxy M42 5G (2021), Galaxy M52 5G (2021), Galaxy M62 (2021); Galaxy M13 (2022), Galaxy M13 5G (2022), Galaxy M23 (2022), Galaxy M33 5G (2022), Galaxy M53 5G (2022); Galaxy M04 (2023), Galaxy M14 5G (2023), Galaxy M34 5G (2023), Galaxy M54 5G (2023); Galaxy M15 5G (2024), Galaxy M35 5G (2024), Galaxy M55 5G (2024); Galaxy M56 5G; Galaxy M06, Galaxy M06 5G; Galaxy XCover 4, Galaxy XCover 4s, Galaxy XCover 5, Galaxy XCover Pro, Galaxy XCover 6 Pro, Galaxy XCover 7; Galaxy Note 7, Galaxy Note Fan Edition, Galaxy Note 8, Galaxy Note 9, Galaxy Note 10, Galaxy Note 10+, Galaxy Note 10 Lite, Galaxy Note 20, Galaxy Note 20 Ultra; Galaxy J2, Galaxy J2 Duos, Galaxy J2 (2016), Galaxy J2 Pro (2016), Galaxy J2 Prime, Galaxy J2 (2018), Galaxy Grand Prime Pro, Galaxy J2 Pro (2018), Galaxy J2 Core, Galaxy J2 Pure, Galaxy J2 Core (2020); Galaxy J3 (2016), Galaxy J3 Pro, Galaxy J3 V, Galaxy Amp Prime, Galaxy J3 Prime, Galaxy J3 Emerge, Galaxy J3 Eclipse, Galaxy Express Prime 2, Galaxy Amp Prime 2, Galaxy J3 (2017), Galaxy J3 Pro (2017), Galaxy J3 (2017) Duos, Galaxy J3 (2018), Galaxy J3 Star, Galaxy Amp Prime 3, Galaxy J3 V (2018), Galaxy J3 Aura, Galaxy J3 Orbit; Galaxy J4, Galaxy J4+, Galaxy J4 Core; Galaxy J5, Galaxy J5 (2016), Galaxy J5 Metal, Galaxy J5 Prime, Galaxy J5 (2017), Galaxy J5 Pro (2017), Galaxy J5 (2017) Duos; Galaxy J6, Galaxy J6+; Galaxy J7 (2016), Galaxy J7 Duos (2016), Galaxy J7 Prime, Galaxy On Nxt, Galaxy J7 V, Galaxy J7 Sky Pro, Galaxy J7 Max, Galaxy On Max, Galaxy J7 Nxt, Galaxy J7 Duos, Galaxy J7 Neo, Galaxy J7 Core, Galaxy J7 (2017), Galaxy J7 Pro, Galaxy J7+, Galaxy J7 On7 Prime (2018); Galaxy J8; Galaxy Tab S10 Ultra (2024); Galaxy Tab S10+ (2024); Galaxy Tab S6 Lite (2024); Galaxy Tab S9 FE+ (2023); Galaxy Tab S9 FE (2023); Galaxy Tab S9 Ultra (2023); Galaxy Tab S9+ (2023); Galaxy Tab S9 (2023); Galaxy Tab S8 Ultra (2022); Galaxy Tab S8+ (2022); Galaxy Tab S8 (2022); Galaxy Tab S6 Lite (2022); Galaxy Tab S7 FE (2021); Galaxy Tab S7+ (2020); Galaxy Tab S7 (2020); Galaxy (continued...)

Defendants provide the information below and in the attached charts and document production in order to comply with P.R. 3-3 and 3-4. Defendants reserve the right to prove the invalidity or unenforceability of the Asserted Claims on bases other than those required to be disclosed in these Invalidity Contentions pursuant to P.R. 3-3. The production of documents that have been identified in these Invalidity Contentions shall not be deemed an admission that such documents are admissible or that Defendants have waived any objections regarding the admissibility of such documents.

Pursuant to the provisions of P.R. 3-3, Defendants identify specific portions of prior art references that disclose the elements of the Asserted Claims. Although Defendants have identified exemplary disclosures for each reference, each and every disclosure in the reference is not necessarily identified. The lack of a citation for an element should not be deemed an admission that the element is not disclosed or is not inherent in the reference. In an effort to focus the issues, Defendants identify only exemplary portions of cited references. It should be recognized that persons of ordinary skill in the art generally read a prior art reference as a whole and in the context of other publications and literature and in light of the knowledge of one of ordinary skill in the art. 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

Tab S6 Lite (2020); Galaxy Tab S6 (2019); Galaxy Tab S5e (2019); Galaxy Tab S4 (2018); Galaxy Tab S3 (2017); Galaxy Tab A9+ (2023); Galaxy Tab A9 (2023); Galaxy Tab A8 (2022); Galaxy Tab A7 10.4 (2022); Galaxy Tab A7 Lite (2021); Galaxy Tab A7 (2020); Galaxy Tab A 8.4 (2020); Galaxy Tab A 10.1 (2019); Galaxy Tab A 8.0 with S Pen (2019); Galaxy Tab A 8.0 (2019); Galaxy Tab A 10.5 (2018); Galaxy Tab A 8.0 (2018); Galaxy Tab A 8.0 (2017); Galaxy Tab Active4 Pro (2022); Galaxy Tab Active3 (2020); Galaxy Tab Active Pro (2019); Galaxy Tab Active2 (2017); Galaxy View2 (2019); Galaxy Tab A9+ Kids Edition (2023); Galaxy Tab A7 Lite Kids Edition (2021); Galaxy Tab A Kids Edition (2019); Gear Sport; Galaxy Watch; Galaxy Watch Active; Galaxy Watch Active 2; Galaxy Watch 3; Galaxy Watch 4; Galaxy Watch 4 Classic; Galaxy Watch 5; Galaxy Watch 5 Pro; Galaxy Watch 6; Galaxy Watch 6 Classic; Galaxy Watch 7; Galaxy Watch FE; Galaxy Watch Ultra; Samsung Galaxy Buds; Samsung Galaxy Buds+; Galaxy Buds Live; Galaxy Buds Pro; Galaxy Buds 2; Galaxy Buds 2 Pro; Galaxy Buds FE; Galaxy Buds 3; Galaxy Buds 3 Pro; Galaxy Buds Core; Samsung SmartThings system implementing or supporting location services (such as the location of a phone, a SmartTag, or of a car in which a phone has been traveling, e.g., through the “Samsung Find” or “SmartThings Find” applications), and the associated location services and applications (e.g., “Samsung Find” or “SmartThings Find”) and the software and hardware infrastructure in support of such services.

their scientific or engineering knowledge. Defendants consequently reserve the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony as to the knowledge of a person of ordinary skill in the art to provide context, and as aids to understanding and interpreting the portions of that art identified. Defendants also reserve the right to rely on other portions of the prior art references, other publications, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. Further, where Defendants identify a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure and any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, the identification should be understood to include the figure as well. Defendants further reserve the right to rely upon any applicable industry standards and prior art cited to the patent office as invalidating references or to show the state of the art.

Prior art not included in these Invalidity Contentions, whether known or unknown to Defendants, may become relevant based on subsequent events. In particular, Defendants are currently unaware of the extent, if any, to which Plaintiff will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendants. To the extent that such an issue arises, Defendants reserve the right to identify other known references that would disclose or render obvious the allegedly missing limitation(s) of the Asserted Claims.

Defendants further intend to rely on inventor and Gamba admissions concerning the prior art relevant to the Asserted Patent found in, *inter alia*: the Asserted Patents, the patent prosecution histories for the Asserted Patents and related patents and/or patent applications; any deposition testimony of the named inventors on the Asserted Patents; and the papers filed and any

evidence submitted by Plaintiff in connection with this litigation or other of its past, current, or future litigations or administrative proceedings concerning or relating to one or more of the Asserted Patents.

Because Defendants are continuing their search for and analysis of relevant prior art, Defendants reserve the right to seek to amend or supplement the information provided herein, including identifying, charting, or relying upon additional prior art references, relevant disclosures, and bases for Invalidity Contentions. Additional prior art and disclosures, whether or not cited in this disclosure and whether known or not known to Defendants, may become relevant as investigation, analysis, and discovery continue. Defendants incorporate by reference, and intend to rely on, each reference, disclosure, or argument served in any prior or concurrent matter involving the same patents but not yet produced to Defendants by Plaintiff.

Additionally, because fact discovery has not yet commenced, Defendants reserve the right to present additional prior art references, disclosures, or assertions for prior art identified below under 35 U.S.C. §§ 102(a), (b), (e), (f), or (g), or § 103, located during the course of discovery or further investigation, and to assert invalidity under 35 U.S.C. §§ 102(c), (d), or (f), if future discovery or investigation yields information that supports additional bases of invalidity.

II. INVALIDITY CONTENTIONS—P.R. 3-3

A. Identity of Each Item of Prior Art—P.R. 3-3(a)

Under P.R. 3-3(a), and subject to Defendants' reservation of rights as articulated above, Defendants identify each item of prior art that anticipates or renders obvious one or more of the Asserted Claims in the attached Prior Art Index submitted herewith. *See* Section V below. For references listed in Section V that are not identified as items of prior art that anticipate or render obvious an Asserted Claim, Defendants intend to rely on these references as *inter alia* background and evidence of the state of the art at the time of Plaintiff's alleged inventions and the level of skill

and knowledge of a person of ordinary skill in the art at that time. *See Koninklijke Philips N.V. v. Google LLC*, 948 F. 3d 1330, 1347 (Fed. Cir. 2020) (“Regardless of the tribunal, the inquiry into whether any ‘differences’ between the invention and the prior art would have rendered the invention obvious to a skilled artisan necessarily depends on such artisan’s knowledge.”).

Additionally, the prior art references cited by Defendants include references that are related patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, issued U.S. patents, foreign applications, or foreign issued patents). Any citation to or quotation from any of these patent applications or patents, therefore, encompasses any parallel citation to the same subject matter in other related or corresponding applications or patents. For example, where a claim chart cites a published patent application that ultimately issued as a patent with substantially the same written description, Defendants may rely upon the published patent application or the issued patent as prior art.

Defendants also reserve the right to later rely upon all references or portions of references provided in Section V to supplement or amend these disclosures. Defendants incorporate by reference (1) any and all prior art contained or identified in documents produced thus far by Plaintiff in this or any other proceeding, (2) any and all additional materials regarding or bearing upon invalidity in Plaintiff’s possession or control that have not been produced to date, if any exist, and any and all prior art cited by or invalidity contentions served by defendants in any prior case or concurrent case.

Each disclosed item of prior art describing a product, system, or other implementation made in the United States is evidence of a prior invention by another under 35 U.S.C. § 102(g), as evidenced by the named inventors, authors, organizations, and publishers involved with each of these references. Defendants further intend to rely on admissions of the named inventors

concerning the prior art, including statements found in the Asserted Patents, their prosecution histories, related patents or patent applications, any deposition testimony, and the papers filed and any evidence submitted by Plaintiff in conjunction with this litigation.

B. Whether Prior Art Anticipates or Renders Obvious—P.R. 3-3(b)

Pursuant to P.R. 3. 3(b), and subject to Defendants' reservations of rights, Defendants identify in the attached Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24 prior art references that anticipate the Asserted Claims under at least one or more of 35 U.S.C. §§ 102(a), (b), (e), and (g), either expressly or inherently, and/or render obvious the Asserted Claims under 35 U.S.C. § 103 either alone or in combination with other references identified herein. Each Asserted Claim is anticipated by, or obvious in view of, one or more items of prior art identified in these disclosures, alone or in combination. A table identifying ways in which the prior art references cited herein anticipate or render obvious the Asserted Claims is provided in Section II.B.2 below.

Much of the art identified in the attached Exhibits (i.e. claim charts) reflects common knowledge to persons of ordinary skill in the art and the state of the relevant art at the time of the earliest filing date of each Asserted Patent. Defendants may rely on additional citations, references, expert testimony, and other material to provide context or to aid in understanding the cited portions of the references or cited features of the systems. Defendants may also rely on expert testimony explaining relevant portions of references, relevant hardware or software products or systems, and other discovery regarding these subject matters. Additionally, Defendants may rely on other portions of any prior art reference for purposes of explaining the background and general technical subject area of the reference.

Where an individual reference is cited with respect to all limitations of an Asserted Claim, Defendants contend that the reference anticipates the claim under one or more of 35 U.S.C.

§§ 102(a), (b), (e), or (g) and also renders obvious the claim under 35 U.S.C. § 103, both by itself in view of the knowledge of a person of ordinary skill in the relevant art and in combination with the other references in Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24, including to the extent the reference is not found to disclose one or more claim limitations. A single prior art reference, for example, can establish obviousness where the differences between the disclosures within the reference and the claimed invention would have been obvious to one of ordinary skilled in the art. For example, “[c]ombining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness.” *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F. 3d 982, 991 (Fed. Cir. 2009). If Plaintiff contends that an embodiment within a particular item of prior art does not fully disclose all limitations of a claim, Defendants reserve the right to rely on other embodiments in that prior art reference, or other information, to show single reference obviousness under 35 U.S.C. § 103(a).

Where an individual reference is cited with respect to fewer than all limitations of an Asserted Claim, Defendants contend that the reference renders obvious the claim under 35 U.S.C. § 103(a) by itself in view of the knowledge of a person of ordinary skill in the relevant art or in view of admitted prior art in the Asserted Patents and further in view of each of the other references in Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24 and combination of references that discloses the remaining claim limitation(s), as indicated in the claim charts submitted herewith as Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24. Under § 103, “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John*

Deere Co. of Kansas City, 383 U.S. 1, 17 (1966)). Exemplary motivations to combine references are discussed below in Section II.B.3. Defendants reserve the right to rely upon any references or assertions identified herein in connection with Defendants’ contention that each Asserted Claim is invalid under 35 U.S.C. § 103 and to rely upon expert testimony addressing these references and assertions. The fact that prior art is identified to anticipate the Asserted Claims does not prevent Defendants from also relying on the same reference as rendering the Asserted Claims invalid as obvious. *Realtime Data, LLC v. Iancu*, 912 F. 3d 1368, 1373 (Fed. Cir. 2019) (“anticipation is the epitome of obviousness”). If any cited prior art item does not fully disclose a limitation of an Asserted Claim or is alleged by Plaintiff to not disclose a limitation, the limitation is present and identified in another prior art item, or is admitted prior art by the Asserted Patents, as shown in the attached claim charts.

Many of the cited references cite or relate to additional references or products, services, or projects. Many of the cited references also cite hardware or systems. Defendants may rely upon these cited additional references and copies or exemplars of the cited hardware or systems. Defendants will produce or make available for inspection any of these cited references, hardware, or systems that they intend to rely upon. Defendants may also rely upon the disclosures of the references cited or discussed during the prosecution of the Asserted Patents or the assertions presented by the inventor about those references.

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

Discovery is at an early stage and Plaintiff has not provided any contentions or documentation with respect to any alleged pre-filing invention dates or with respect to claim limitations that are allegedly lacking in the prior art or not obvious over the prior art. Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the relevant priority date for each Asserted Claim, as detailed below.

1. Priority

Plaintiff's P.R. 3-1(e) disclosures allege that the claimed inventions are entitled to the following priority dates:

U.S. Patent No.	Priority Date
9,674,684	April 12, 2005
9,961,507	April 12, 2005
9,772,193	April 12, 2005

Defendants' analysis and selection of prior art is based on, and assumes *arguendo*, the above priority dates. However, Defendants note that Gamba has provided no evidence to support its contentions that the Asserted Claims are entitled to claim priority back to these dates, a number of which rely on U.S. provisional patent application filing dates, and Defendants therefore reserve the right to argue that a later priority date is appropriate based on any findings as to the priority date of the Asserted Claims by the Court, information learned through discovery, or otherwise. Should Gamba fail to establish that any Asserted Claim is entitled to the above priority dates or should Gamba improperly later assert a different invention or priority date, Defendants reserve the right to add additional prior art references to these Invalidity Contentions.

To establish entitlement to an earlier priority date, each application in the chain leading back to the earlier application must comply with the written description requirement. *Anthrex, Inc. v. Smith & Nephew, Inc.*, 35 F.4th 1328, 1343 (Fed. Cir. 2022). Therefore, the earlier filed applications "must 'reasonably convey[] to those skilled in the art that the inventor had possession

of the [later-claimed] subject matter as of the filing date.’” *Id.* (quoting *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc)). A disclosure in a parent application that merely renders the later-claimed invention obvious is not sufficient to meet the written description requirement. *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1158 (Fed. Cir. 1998). Instead, the disclosure in a parent application must describe the later-claimed invention with all its limitations. *Id.* Moreover, patent claims are awarded priority on a claim-by-claim basis based on the disclosure in the priority applications. *Lucent Techs., Inc. v. Gateway, Inc.*, 543 F.3d 710, 718 (Fed. Cir. 2008). A dependent patent claim cannot have an earlier priority date than the independent claim from which it depends. *See* 35 U.S.C. § 112(d).

As discussed below, the priority chain of the Asserted Patents is flawed at least because new matter has been added to the applications in the priority chain and the applications cannot claim priority back to the initial 2005 provisional applications as Gamba alleges. The ’507 Patent was issued from U.S. Patent Application No. 15/687,445 (filed August 26, 2017), which claims priority to U.S. Patent Application No. 15/403,146 (filed January 10, 2017) (“’149 Application”), which issued as the ’193 Patent. The ’149 Application claims priority to U.S. Patent Application No. 15/397,685 (filed January 3, 2017) (“’685 Application”), which issued as the ’684 Patent. The ’685 Application claims priority to U.S. Patent Application No. 15/237,727 (filed on August 16, 2016), which claims priority to U.S. Patent Application No. 15/086,028 (filed on March 30, 2016), which claims priority to U.S. Patent Application No. 14/285,406 (filed on May 22, 2014), which claims priority to U.S. Patent Application No. 14/285,332 (filed on May 22, 2014), which claims priority to U.S. Patent Application No. 14/285,273 (filed on May 22, 2014), which claims priority to U.S. Patent Application No. 14/285,209 (filed on May 22, 2014) (“’209 Application”), which claims priority to U.S. Patent Application No. 12/930,735 (filed on January 14, 2011), which

claims priority to U.S. Patent Application No. 11/396,843 (filed on Apr. 3, 2016), which claims priority to U.S. Provisional Patent Application No. 60/670,097 (filed April 12, 2005). Additionally, the '209 Application further claims priority to U.S. Patent Application No. 13/135,421 (filed on July 5, 2011), which claims priority to U.S. Patent Application No. 12/932,811 (filed on March 7, 2011), which claims priority to U.S. Patent Application No. 12/069,899 (filed on February 13, 2008), which claims priority to U.S. Patent Application No. 11/472,706 (filed on June 22, 2006), which claims priority to U.S. Patent Application No. 11/429,864 (filed on May 8, 2006), which claims priority to U.S. Provisional Patent Application No. 60/678,947 (filed May 9, 2005). Furthermore, the '209 Application further claims priority to U.S. Patent Application No. 12/587,042 (filed on October 1, 2009), which claims priority to U.S. Patent Application No. 11/429,864 (filed on May 8, 2006), which claims priority to U.S. Provisional Patent Application No. 60/678,947 (filed May 9, 2005).

Each patent application noted above were all claimed to be “divisional” applications. However, these applications were not filed in response to a restriction requirement, and most of these applications, if not all, were filed with modified disclosures and new matter. Consequently, these applications should be treated as continuation-in-part applications, and as Defendants discuss further below, the Asserted Claims of the Asserted Patents cannot claim priority to the earliest filing date of April 12, 2005.

a) The '684 Patent

Plaintiff has taken the position that all asserted claims of the '684 Patent are entitled to the priority date of April 12, 2005. Defendants disagree and provide their contentions regarding the priority dates for the Asserted Claims of the '684 Patent below.

The '684 Patent is not entitled to its asserted priority date for three reasons. First, the '684 Patent fails to meet the specific reference requirement under 35 U.S.C. § 120. Thus, it is entitled

to claim priority no earlier than its filing date of January 3, 2017. Second, the Asserted Claims of the '684 Patent do not have written description support in the earlier-filed applications to which the '684 Patent claims priority. To the extent that there is written description support for the Asserted Claims of the '684 Patent pursuant to any of the asserted priority chains, such support existed no earlier than May 22, 2014, as discussed above. Third, at least one of the purported "divisional applications" to which the '684 Patent purports to claim priority to added new matter and was thus improperly characterized as a divisional application. To the extent the '684 Patent is entitled to claim priority to any parent application, such priority can be no earlier than March 16, 2016.

The table below sets forth the cross references to related applications as expressly listed in the '193 Patent. The text is verbatim quoted from the '193 Patent, except where it contains bracketed citations or explanations for non-overlapping disclosures in the three priority chains. The table is structured such that the priority disclosures in each priority chain are organized vertically in reverse chronological order, consistent with the disclosure in the '193 Patent. The first column indicates the filing date of the application identified in each row.

Date	Priority Chain A - (See '684 Patent Column 1)	Priority Chain B - (See '684 Patent Columns 1–2)	Priority Chain C – (See '684 Patent Column 2)
Jan. 10, 2017	A) is a Divisional Application of U.S. patent application Ser. No. 15/403,146 filed on Jan. 10, 2017 [1:9-10]	B) is a Divisional Application of U.S. patent application Ser. No. 15/403,146 filed on Jan. 10, 2017,	C) is a Divisional Application of U.S. patent application Ser. No. 15/403,146 filed on Jan. 10, 2017,
Jan. 3, 2017	which is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017 (now U.S. Pat. No.	which is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017,	which is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017,

	9,674,684 on Jun. 6, 2017),		
Aug. 16, 2016	which is a Divisional Application of U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),	which is a Divisional Application of U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),	which is a Divisional Application of U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),
Mar. 30, 2016	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (now U.S. Pat. No. 9,420,423 on Aug. 16, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (Scheduled to issue as U.S. Pat. No. 9,420,423 on Aug. 16, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (scheduled to issue as U.S. Pat. No. 9,420,423 on Aug. 16, 2016),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (now U.S. Pat. No. 9,602,193 on Mar. 21, 2017),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014 (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014, (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014 (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015),

May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May 22, 2014 (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May 22, 2014, (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May 22, 2014 (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015),
Jul. 5, 2011	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 13/135,421 filed on Jul. 5, 2011 (now U.S. Pat. No. 9,374,673 on Jun. 21, 2016),	[not included in Priority Chain C]
Mar. 7, 2011	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 12/932,811 filed on Mar. 7, 2011 (now U.S. Pat. No. 8,941,485 on Jan. 27, 2015),	[not included in Priority Chain C]
Jan. 14, 2011	which is a Divisional Application of U.S. patent application Ser. No. 12/930,735 filed on Jan. 14, 2011 (now U.S. Pat. No. 9,020,687 on Apr. 28, 2015),	[not included in Priority Chain B]	[not included in Priority Chain C]
Oct. 1, 2009	[not included in Priority Chain A]	[not included in Priority Chain B]	a Divisional Application of U.S. patent application Ser. No. 12/587,042 filed on Oct. 1, 2009 (now U.S. Pat. No. 8,866,876 on Oct. 21, 2014),
Feb. 13, 2008	[not included in Priority Chain A]	which is a Divisional Application of pending U.S. patent application Ser.	[not included in Priority Chain C]

		No. 12/069,899 filed on Feb. 13, 2008 (issued as U.S. Pat. No. 7,924,149 on Apr. 12, 2011),	
Jun. 22, 2006	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 11/472,706 filed on Jun. 22, 2006 (now U.S. Pat. No. 8,896,485 on Nov. 25, 2014),	[not included in Priority Chain C]
May 8, 2006	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 11/429,864 filed on May 8, 2006 (now U.S. Pat. No. 8,836,580 on Sep. 16, 2014),	which is a Divisional Application of U.S. patent application Ser. No. 11/429,864 filed on May 8, 2006 (now U.S. Pat. No. 8,836,580 on Sep. 16, 2014),
Apr. 3, 2006	which is a Divisional Application of U.S. patent application Ser. No. 11/396,843 filed on Apr. 3, 2006 (now U.S. Pat. No. 7,899,583 on Mar. 1, 2011),	[not included in Priority Chain B]	[not included in Priority Chain C]
May 9, 2005	[not included in Priority Chain A]	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 9, 2005, and	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 9, 2005.
Apr. 12, 2005	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/670,097 filed on Apr.	[not included in Priority Chain B]	[not included in Priority Chain C]

	12, 2005;		
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(1) Failure to meet specific reference requirement

Under 35 U.S.C. § 120:

No application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing ***the specific reference*** to the earlier filed application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment within that time period as a waiver of any benefit under this section.

The “specific reference” requirement under section 120 “mandates each intermediate application in the chain of priority to refer to the prior applications.” *Medtronic CoreValve, LLC v. Edwards Lifesciences Corp.*, 741 F.3d 1359, 1363 (Fed. Cir. 2014) (cleaned up). If an application in the priority chain fails to meet this requirement, that renders the priority chain defective such that later applications in the chain lose the benefit of an earlier filing date based on an earlier patent application. *See Encyclopaedia Britannica, Inc. v. Alpine Elecs. of Am., Inc.*, 609 F.3d 1345, 1349-51 (Fed. Cir. 2010). Thus, the burden is on the patentee to demonstrate that this requirement is met and “provide a clear, unbroken chain of priority.” *Droplets, Inc. v. E*TRADE Bank*, 887 F.3d 1309, 1313, 1316 (Fed. Cir. 2018) (citing *Medtronic*, 741 F.3d at 1366). In determining whether the patentee has satisfied its burden, courts may look to the face of the issued patent specification itself. *See id.* at 1313, 1316.

Here, Gamba cannot demonstrate a “clear, unbroken chain of priority” sufficient to meet the “specific reference” requirement. Indeed, as demonstrated in the table below, the convoluted priority chains cited in the ’684 Patent are replete with errors. For example, the ’684 Patent states that U.S. Patent App. No. 15/086,028 is a divisional application of U.S. Patent App. No. 14/285,406. The ’028 Application, however, states that it is a divisional application of U.S. Patent App. No. 14/285,439 (which has since been abandoned). As another example, the ’684 Patent

states that “U.S. patent application Ser. No. 15/237,7274[sic] filed on Aug. 16, 2016 (scheduled to issue as U.S. Pat. No. 9,420,423 on Jan. 3, 2017). ’684 Patent, 1:6-10. Similarly, both U.S. Patent App. No. 15/403,146 (issued as U.S. Patent No. 9,772,193) and U.S. Patent App. No. 15/403,146 (issued as U.S. Patent No. 9,772,193) state that “U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 ([is] now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),” but this is incorrect. The ’727 Application was issued as U.S. Patent No. 9,538,332, not as 9,420,423.

The above identification is a non-exhaustive list of the errors in the priority chains. Thus, because the ’684 Patent and the patent applications to which it claims priority fail to meet the specific reference requirement, the ’684 Patent is limited to a priority date of no earlier than its filing date, January 3, 2017. To the extent the specification of the ’684 Patent contains written description or enablement support of the Asserted Claims of the ’684 Patent, then at least the following patents to which the ’684 Patent directly or indirectly claims priority anticipate and/or render obvious the Asserted Claims: U.S. Patent Nos. 9,020,687, 9,204,251, 9,204,257, 8,941,485, and 8,866,673. Exhibits A23-27 are redline comparisons of the specifications of each of these patents against the ’684 Patent’s specification.

(2) Lack of written description support for the Asserted Claims

In order to rely on the filing date of an earlier application, 35 U.S.C. § 120 requires that the earlier application include a disclosure that complies with the written description requirement of 35 U.S.C. § 112. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997). To comply with the written description requirement, the specification “must describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed.” *Lizardtech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The written

description requirement “guards against the inventor’s overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991). “In order to satisfy the written description requirement, the disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject matter at issue.” *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000). Nevertheless, “one skilled in the art, reading the original disclosure, **must immediately discern the limitation at issue in the claims.**” *Id.* (emphasis added). “Entitlement to a filing date extends only to the subject matter that is disclosed; not to that which is obvious.” *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 870 (Fed. Cir. 2010) (internal citations omitted). “Therefore the parent application must actually or inherently disclose the elements of the later-filed claims.” *Id.* Further, “if *any* application in the priority chain fails to make the requisite disclosure of subject matter, the later-filed application is not entitled to the benefit of the filing date of applications preceding the break in the priority chain.” *Hollmer v. Harari*, 681 F.3d 1351, 1355 (Fed. Cir. 2012) (emphasis added).

In evaluating whether a disclosure provides sufficient written description, the Federal Circuit has held that “one cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention. In order to satisfy the written description requirement, the blaze marks directing the skilled artisan to that tree must be in the originally filed disclosure.” *Purdue Pharma*, 230 F.3d at 1326-1327 (emphasis added).

Here, the Asserted Claims of the ’684 Patent do not have written description support in at least one application in each priority chain to which the ’684 Patent purports to claim priority. To the extent that there is written description support for the Asserted Claims of the ’684 Patent

pursuant to any of the asserted priority chains, such support existed no earlier than May 22, 2014, as discussed below.

Based on Defendant's current knowledge and investigation to date, the Asserted Claims of the '684 Patent are not entitled to the earliest filing dates of either U.S. Provisional Patent Application No. 60/678,947 (filed May 9, 2005) or U.S. Provisional Patent Application No. 60/670,097 (filed April 12, 2005). The Asserted Claims of the '684 Patent include a single independent claim 52 and its single dependent claim 53. Independent claim 52, requires, among other things, "deploying at least one beacon, the beacon adapted to transmit a beacon signal using at least one of a unidirectional Bluetooth protocol signal and a unidirectional Wi-Fi protocol signal." However, by way of example, neither of the provisional applications describe unidirectional Bluetooth or Wi-Fi signals. Rather, the provisional applications describe a system where RFID sensors are used to sense an empty parking spot and then to communicate signals to a central database called Parking Guide. The Parking Guide then sends the parking availability to the mobile devices (called Parking Detectors), which use that information to navigate to the parking spot. However, the provisional applications provide no description about an embodiment where these signals are transmitted over Bluetooth or WiFi, nor do they describe an embodiment where the system contemplates choosing one or the other (or both) protocol(s). The earliest disclosure that arguably describes the claimed scenario that includes "deploying at least one beacon, the beacon adapted to transmit a beacon signal using at least one of a unidirectional Bluetooth protocol signal and a unidirectional Wi-Fi protocol signal," appears to be U.S. Patent Application No. 13/135,421 (the "'421 Application"), filed on July 5, 2011. While a similar feature appears to be described in the claims of the '421 Application (e.g., the "beacon signal is at least one of a repeating unidirectional Bluetooth beacon signal and a repeating unidirectional Wi-Fi

beacon signal,” in Claim 1), it is wholly absent from the specification. During prosecution of the ’421 Application, on April 7, 2014 in reply to a Final Office Action from the USPTO, dated January 8, 2014, the claims were amended to include this feature. In Applicant’s remarks, Applicant admits this feature was suggested only by the disclosure’s lack of specification regarding the communication’s direction (i.e., the disclosure doesn’t state the direction is bidirectional, so it is unidirectional). *See* Supplemental Reply to Final Office Action dated January 8, 2014 (“The disclosure does not indicate any two way communication.”) Consequently, the earliest priority date that independent claim 52 and its dependent claim 53 are entitled to is July 5, 2011.

While Defendants dispute that the asserted claims of the ’684 Patent are entitled to the earliest provisional filing date of April 12, 2005, solely for the purpose of these Invalidity Contentions, Defendants have taken into account Plaintiff’s assertion of the April 12, 2005 date. To the extent it is determined that the ’684 Patent is entitled to a different priority date, Defendants reserve the right to supplement its invalidity contentions.

(3) Improperly designated divisional application

In addition to the lack of written description support for the Asserted Claims in the applications to which it claims priority, the ’684 Patent is also not entitled to the asserted priority date because at least U.S. Patent No. 9,538,332 (the “’332 Patent”), which is included in each of the three priority chains, improperly added new matter that was not disclosed in the application that it purports to be a divisional of.

A divisional application is “carved out of a pending application and disclos[es] and claim[s] only subject matter disclosed in the earlier or parent application.” A patent application “cannot be a divisional” of a parent application where it “contains new matter that was not present in the [parent] application.” *G.D. Searle LLC v. Lupin Pharms., Inc.*, 790 F.3d 1349, 1354 (Fed. Cir. 2015) (application could not be a divisional, regardless of the fact that it purported to be a

divisional, because it contained new matter not present in parent application). “[N]ew matter is not entitled to the priority date of the original application.” *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353, 1361 (Fed. Cir. 2008).

The Applicant has modified and added new disclosures to a majority of the alleged “divisional applications.” As a non-exhaustive example, as discussed in Section 0, the two provisional applications with the earliest filing dates do not contain any disclosure relating to a mobile device that is configured to scan for signals or decoding anything from those signals for use in activating some Location-Based Service (LBS). Instead, the earliest disclosure that arguably describes these claimed features appear to have been newly added in the four concurrently filed U.S. Patent Application Nos. 14/285,406, 14/285,332, 14/285,273, 14/285,209, all filed on May 22, 2014. As another example, as also discussed in Section 0, the Applicant provides a description of the term “automatic crowd sourcing” for the first time in the four concurrently filed U.S. Patent Application Nos. 14/285,406, 14/285,332, 14/285,273, 14/285,209, all filed on May 22, 2014. These examples are non-exhaustive examples of the new matter added in the purported “divisionals” in the alleged priority chain. Thus, because new matter was added, the ’684 Patent is not entitled to its asserted priority date.

b) The ’507 Patent

As noted above, Plaintiff has taken the position that all asserted claims of the ’507 Patent are entitled to the priority date of April 12, 2005. Defendants disagree and provide their contentions regarding the proper priority dates for the asserted claims of the ’507 Patent below.

The ’507 Patent is not entitled to its asserted priority date for three reasons. First, the ’507 Patent fails to meet the specific reference requirement under 35 U.S.C. § 120. Thus, it is entitled to claim priority no earlier than its filing date of August 26, 2017. Second, the Asserted Claims of the ’507 Patent do not have written description support in the earlier-filed applications to which

the '507 Patent claims priority. To the extent that there is written description support for the Asserted Claims of the '507 Patent pursuant to any of the asserted priority chains, such support existed no earlier than May 22, 2014, as discussed above. Third, at least one of the purported “divisional applications” to which the '507 Patent purports to claim priority to added new matter and was thus improperly characterized as a divisional application. To the extent the '507 Patent is entitled to claim priority to any parent application, such priority can be no earlier than March 16, 2016.

The table below sets forth the cross references to related applications as expressly listed in the '507 Patent. The text is verbatim quoted from the '507 Patent, except where it contains bracketed citations or explanations for non-overlapping disclosures in the three priority chains. The table is structured such that the priority disclosures in each priority chain are organized vertically in reverse chronological order, consistent with the disclosure in the '507 Patent. The first column indicates the filing date of the application identified in each row.

Date	Priority Chain A - (See '507 Patent Column 1)	Priority Chain B - (See '507 Patent Columns 1–2)	Priority Chain C – (See '507 Patent Column 2)
Jan. 10, 2017	A) is a Divisional Application of U.S. patent application Ser. No. 15/403,146 filed on Jan. 10, 2017 [1:9-10]	B) is a Divisional Application of U.S. patent application Ser. No. 15/403,146 filed on Jan. 10, 2017,	C) is a Divisional Application of U.S. patent application Ser. No. 15/403,146 filed on Jan. 10, 2017,
Jan. 3, 2017	which is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017 (now U.S. Pat. No. 9,674,684 on Jun. 6, 2017),	which is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017,	which is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017,
Aug. 16, 2016	which is a Divisional Application of U.S. patent	which is a Divisional Application of U.S. patent	which is a Divisional Application of U.S. patent

	application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),	application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),	application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),
Mar. 30, 2016	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (now U.S. Pat. No. 9,420,423 on Aug. 16, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (Scheduled to issue as U.S. Pat. No. 9,420,423 on Aug. 16, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (scheduled to issue as U.S. Pat. No. 9,420,423 on Aug. 16, 2016),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (now U.S. Pat. No. 9,602,193 on Mar. 21, 2017),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014 (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014, (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015),	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014 (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015),
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May

	22, 2014 (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015),	22, 2014, (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015),	22, 2014 (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015),
Jul. 5, 2011	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 13/135,421 filed on Jul. 5, 2011 (now U.S. Pat. No. 9,374,673 on Jun. 21, 2016),	[not included in Priority Chain C]
Mar. 7, 2011	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 12/932,811 filed on Mar. 7, 2011 (now U.S. Pat. No. 8,941,485 on Jan. 27, 2015),	[not included in Priority Chain C]
Jan. 14, 2011	which is a Divisional Application of U.S. patent application Ser. No. 12/930,735 filed on Jan. 14, 2011 (now U.S. Pat. No. 9,020,687 on Apr. 28, 2015),	[not included in Priority Chain B]	[not included in Priority Chain C]
Oct. 1, 2009	[not included in Priority Chain A]	[not included in Priority Chain B]	a Divisional Application of U.S. patent application Ser. No. 12/587,042 filed on Oct. 1, 2009 (now U.S. Pat. No. 8,866,876 on Oct. 21, 2014),
Feb. 13, 2008	[not included in Priority Chain A]	which is a Divisional Application of pending U.S. patent application Ser. No. 12/069,899 filed on Feb. 13, 2008 (issued as U.S. Pat. No. 7,924,149 on Apr. 12, 2011),	[not included in Priority Chain C]

Jun. 22, 2006	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 11/472,706 filed on Jun. 22, 2006 (now U.S. Pat. No. 8,896,485 on Nov. 25, 2014),	[not included in Priority Chain C]
May 8, 2006	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 11/429,864 filed on May 8, 2006 (now U.S. Pat. No. 8,836,580 on Sep. 16, 2014),	which is a Divisional Application of U.S. patent application Ser. No. 11/429,864 filed on May 8, 2006 (now U.S. Pat. No. 8,836,580 on Sep. 16, 2014),
Apr. 3, 2006	which is a Divisional Application of U.S. patent application Ser. No. 11/396,843 filed on Apr. 3, 2006 (now U.S. Pat. No. 7,899,583 on Mar. 1, 2011),	[not included in Priority Chain B]	[not included in Priority Chain C]
May 9, 2005	[not included in Priority Chain A]	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 9, 2005, and	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 9, 2005.
Apr. 12, 2005	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/670,097 filed on Apr. 12, 2005;	[not included in Priority Chain B]	[not included in Priority Chain C]

(1) Failure to meet specific reference requirement

Under 35 U.S.C. § 120:

No application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing ***the specific reference*** to the earlier filed application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment within that time period as a waiver of any benefit under this section.

The “specific reference” requirement under section 120 “mandates each intermediate application in the chain of priority to refer to the prior applications.” *Medtronic CoreValve, LLC v. Edwards Lifesciences Corp.*, 741 F.3d 1359, 1363 (Fed. Cir. 2014) (cleaned up). If an application in the priority chain fails to meet this requirement, that renders the priority chain defective such that later applications in the chain lose the benefit of an earlier filing date based on an earlier patent application. *See Encyclopaedia Britannica, Inc. v. Alpine Elecs. of Am., Inc.*, 609 F.3d 1345, 1349-51 (Fed. Cir. 2010). Thus, the burden is on the patentee to demonstrate that this requirement is met and “provide a clear, unbroken chain of priority.” *Droplets, Inc. v. E*TRADE Bank*, 887 F.3d 1309, 1313, 1316 (Fed. Cir. 2018) (citing *Medtronic*, 741 F.3d at 1366). In determining whether the patentee has satisfied its burden, courts may look to the face of the issued patent specification itself. *See id.* at 1313, 1316.

Here, Gamba cannot demonstrate a “clear, unbroken chain of priority” sufficient to meet the “specific reference” requirement. Indeed, as demonstrated in the table below, the convoluted priority chains cited in the ’507 Patent are replete with errors. For example, the ’507 Patent states that U.S. Patent App. No. 15/086,028 is a divisional application of U.S. Patent App. No. 14/285,406. The ’028 Application, however, states that it is a divisional application of U.S. Patent App. No. 14/285,439 (which has since been abandoned). As another example, both the ’507 Patent and U.S. Patent App. No. 15/403,146 (issued as U.S. Patent No. 9,772,193) state that “U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 ([is] now U.S. Pat. No. 9,420,423 on Jan.

3, 2017),” but this is incorrect. The ’727 Application was issued as U.S. Patent No. 9,538,332, not as 9,420,423.

The above identification is a non-exhaustive list of the errors in the priority chains. Thus, because the ’507 Patent and the patent applications to which it claims priority fail to meet the specific reference requirement, the ’507 Patent is limited to a priority date of no earlier than its filing date, August, 2017. To the extent the specification of the ’507 Patent contains written description or enablement support of the Asserted Claims of the ’507 Patent, then at least the following patents to which the ’507 Patent directly or indirectly claims priority anticipate and/or render obvious the Asserted Claims: U.S. Patent Nos. 9,020,687, 9,204,251, 9,204,257, 8,941,485, and 8,866,673. Exhibits B31-35 are redline comparisons of the specifications of each of these patents against the ’507 Patent’s specification.

(2) Lack of written description support for the Asserted Claims

In order to rely on the filing date of an earlier application, 35 U.S.C. § 120 requires that the earlier application include a disclosure that complies with the written description requirement of 35 U.S.C. § 112. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997). To comply with the written description requirement, the specification “must describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed.” *Lizardtech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The written description requirement “guards against the inventor’s overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991). “In order to satisfy the written description requirement, the disclosure as originally filed does not have to

provide *in haec verba* support for the claimed subject matter at issue.” *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000). Nevertheless, “one skilled in the art, reading the original disclosure, **must immediately discern the limitation at issue in the claims.**” *Id.* (emphasis added). “Entitlement to a filing date extends only to the subject matter that is disclosed; not to that which is obvious.” *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 870 (Fed. Cir. 2010) (internal citations omitted). “Therefore the parent application must actually or inherently disclose the elements of the later-filed claims.” *Id.* Further, “if *any* application in the priority chain fails to make the requisite disclosure of subject matter, the later-filed application is not entitled to the benefit of the filing date of applications preceding the break in the priority chain.” *Hollmer v. Harari*, 681 F.3d 1351, 1355 (Fed. Cir. 2012) (emphasis added).

In evaluating whether a disclosure provides sufficient written description, the Federal Circuit has held that “one cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention. In order to satisfy the written description requirement, the blaze marks directing the skilled artisan to that tree must be in the originally filed disclosure.” *Purdue Pharma*, 230 F.3d at 1326-1327 (emphasis added).

Here, the Asserted Claims of the ’507 Patent do not have written description support in at least one application in each priority chain to which the ’193 Patent purports to claim priority. To the extent that there is written description support for the Asserted Claims of the ’507 Patent pursuant to any of the asserted priority chains, such support existed no earlier than May 22, 2014, as discussed below.

Based on Defendant’s current knowledge and investigation to date, the asserted claims of the ’507 Patent are not entitled to the earliest filing dates of either U.S. Provisional Patent Application No. 60/678,947 (filed May 9, 2005) or U.S. Provisional Patent Application No.

60/670,097 (filed April 12, 2005). The asserted claims of the '507 Patent include a single independent claim 57 and its dependent claims 58, 59, 63, 64, 77, and 78. Independent claim 57 requires, among others, “scanning for any of said beacon signals using a mobile device,” “decoding said received beacon signal to obtain said LBS informative data,” and “activating said Location Based Service (LBS) based upon receipt of said LBS informative data received from said respective beacon.” However, by way of example, neither of the provisional applications describe a mobile device that is configured to scan for signals or decoding anything from those signals for use in activating some Location-Based Service (LBS). Rather, the provisionals describe a system where RFID sensors are used to sense an empty parking spot and then to communicate signals to a central database called Parking Guide. The Parking Guide then sends the parking availability to the mobile devices (called Parking Detectors), which use that information to navigate to the parking spot. However, the provisionals provide no description about an embodiment where mobile phones are scanning for signals or decoding such signals to activate some Location-Based Service (LBS). The earliest disclosure that arguably describes the claimed scenario that includes “scanning for ... said beacon signal using a mobile device; ... detecting ... said broadcast beacon signal; receiving ... said beacon signal by said mobile device ...; decoding said ... beacon signal to obtain said LBS informative data; and activating said Location Based Service (LBS) based upon receipt of said LBS informative data” appears to be in the four concurrently filed U.S. Patent Application Nos. 14/285,406, 14/285,332, 14/285,273, 14/285,209, all filed on May 22, 2014. Consequently, the earliest priority date that independent claim 57 and all its dependent claims are entitled to is May 22, 2014. To the extent Plaintiff argues that independent claim 57 and all its dependent claims are entitled to the filing date of U.S. Patent Application No. 12/069,899 (February 13, 2008) based on the disclosure directed to a mobile device using short-ranged

transmission such as Bluetooth to scan for nearby signals, Defendants would disagree because this application fails to disclose a step of decoding something from a beacon signal for use in activating some Location-Based Service (LBS), as further required by the claims.

Additionally, the earliest priority date that dependent claims 63 and 64 are entitled to is May 22, 2014 because claim 63 requires “a step of initiating said at least one Location Based Service (LBS), wherein said at least one LBS utilizes automatic crowd sourcing,” which is a requirement that claim 64 shares based on its dependency to claim 63. The earliest disclosure that discusses the term “automatic crowd sourcing” is found in the four concurrently filed U.S. Patent Application Nos. 14/285,406, 14/285,332, 14/285,273, 14/285,209, all filed on May 22, 2014. None of the prior applications mention the term “crowd sourcing,” let alone “automatic crowd sourcing,” nor are there any disclosure that could be interpreted as such terms. Consequently, dependent claims 63 and 64 cannot claim priority to any application earlier than those filed on May 22, 2014.

While Defendants dispute that the asserted claims of the '507 Patent are entitled to the earliest provisional filing date of April 12, 2005, solely for the purpose of these Invalidity Contentions, Defendants have taken into account Plaintiff's assertion of the April 12, 2005 date. To the extent it is determined that the '507 Patent is entitled to a different priority date, Defendants reserve the right to supplement its invalidity contentions.

(3) Improperly designated divisional application

In addition to the lack of written description support for the Asserted Claims in the applications to which it claims priority, the '507 Patent is also not entitled to the asserted priority date because at least U.S. Patent No. 9,538,332 (the “'332 Patent”), which is included in each of the three priority chains, improperly added new matter that was not disclosed in the application that it purports to be a divisional of.

A divisional application is “carved out of a pending application and disclos[es] and claim[s] only subject matter disclosed in the earlier or parent application.” A patent application “cannot be a divisional” of a parent application where it “contains new matter that was not present in the [parent] application.” *G.D. Searle LLC v. Lupin Pharms., Inc.*, 790 F.3d 1349, 1354 (Fed. Cir. 2015) (application could not be a divisional, regardless of the fact that it purported to be a divisional, because it contained new matter not present in parent application). “[N]ew matter is not entitled to the priority date of the original application.” *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353, 1361 (Fed. Cir. 2008).

The Applicant has modified and added new disclosures to a majority of the alleged “divisional applications.” As a non-exhaustive example, as discussed in Section 0, the two provisional applications with the earliest filing dates do not contain any disclosure relating to a mobile device that is configured to scan for signals or decoding anything from those signals for use in activating some Location-Based Service (LBS). Instead, the earliest disclosure that arguably describes these claimed features appear to have been newly added in the four concurrently filed U.S. Patent Application Nos. 14/285,406, 14/285,332, 14/285,273, 14/285,209, all filed on May 22, 2014. As another example, as also discussed in Section 0, the Applicant provides a description of the term “automatic crowd sourcing” for the first time in the four concurrently filed U.S. Patent Application Nos. 14/285,406, 14/285,332, 14/285,273, 14/285,209, all filed on May 22, 2014. These examples are non-exhaustive examples of the new matter added in the purported “divisionals” in the alleged priority chain. Thus, because new matter was added, the ’507 Patent is not entitled to its asserted priority date.

c) The ’193 Patent

The '193 Patent purports to claim priority to U.S. Provisional Application No. 60/670,097,² filed on April 12, 2005 and to U.S. Provisional Application 60/678,947, filed on May 9, 2005. '193 Patent at 1:5-2:35. The '193 Patent purports to claim priority to the '097 Application via a series of what it refers to as “divisional applications,” (“Priority Chain A”). '193 Patent at 1:5-35. The '193 Patent purports to claim priority to the '947 Application via two series of purported “divisional applications,” set forth below (“Priority Chain B” and “Priority Chain C”, respectively). '193 Patent at 1:36-2:35.

The '193 Patent is not entitled to its asserted priority date for three reasons. First, the '193 Patent fails to meet the specific reference requirement under 35 U.S.C. § 120. Thus, it is entitled to claim priority no earlier than its filing date of January 10, 2017. Second, the Asserted Claims of the '193 Patent do not have written description support in the earlier-filed applications to which the '193 Patent claims priority. To the extent that there is written description support for the Asserted Claims of the '193 Patent pursuant to any of the asserted priority chains, such support existed no earlier than October 1, 2009 with the filing of U.S. Patent Application No. 12/587,042. Third, at least one of the purported “divisional applications” to which the '193 Patent purports to claim priority to added new matter and was thus improperly characterized as a divisional application. To the extent the '193 Patent is entitled to claim priority to any parent application, such priority can be no earlier than March 16, 2016.

The table below sets forth the cross references to related applications as expressly listed in the '193 Patent. The text is verbatim quoted from the '193 Patent, except where it contains bracketed citations or explanations for non-overlapping disclosures in the three priority chains.

² Unless otherwise noted, all patents and patent applications are referred to by their last three digits.

The table is structured such that the priority disclosures in each priority chain are organized vertically in reverse chronological order, consistent with the disclosure in the '193 Patent. The first column indicates the filing date of the application identified in each row.

Date	Priority Chain A	Priority Chain B	Priority Chain C
Jan. 3, 2017	A) is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017, [1:7-8]	B) is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017, [1:36-37]	C) is a Divisional Application of U.S. patent application Ser. No. 15/397,685 filed on Jan. 3, 2017, [2:7-8]
Aug. 16, 2016	which is a Divisional Application of U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017), [1:9-11]	which is a Divisional Application of U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017), [1:38-40]	which is a Divisional Application of U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 (now U.S. Pat. No. 9,420,423 on Jan. 3, 2017), [2:9-11]
Mar. 30, 2016	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (now U.S. Pat. No. 9,420,423 on Aug. 16, 2016), [1:12-14]	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (Scheduled to issue as U.S. Pat. No. 9,420,423 on Aug. 16, 2016), [1:41-43]	which is a Divisional Application of U.S. patent application Ser. No. 15/086,028 filed on Mar. 30, 2016 (Scheduled to issue as U.S. Pat. No. 9,420,423 on Aug. 16, 2016), [2:12-14]
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending), [1:15-17]	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending), [1:44-46]	which is a Divisional Application of U.S. patent application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending), [2:15-17]
May 22, 2014	which is a Divisional Application of U.S. patent	which is a Divisional Application of U.S. patent	which is a Divisional Application of U.S. patent

	application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016), [1:18-20]	application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016), [1:47-49]	application Ser. No. 14/285,332 filed on May 22, 2014 (now U.S. Pat. No. 9,491,584 on Nov. 8, 2016), [2:18-20]
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014, (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015), [1:21-23]	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014, (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015), [1:50-52]	which is a Divisional Application of U.S. patent application Ser. No. 14/285,273 filed on May 22, 2014, (now U.S. Pat. No. 9,204,257 on Dec. 1, 2015), [2:21-23]
May 22, 2014	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May 22, 2014, (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015), [1:24-26]	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May 22, 2014, (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015), [1:53-55]	which is a Divisional Application of U.S. patent application Ser. No. 14/285,209 filed on May 22, 2014, (now U.S. Pat. No. 9,204,251 on Dec. 1, 2015), [2:24-26]
Jul. 5, 2011	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 13/135,421 filed on Jul. 5, 2011 (now U.S. Pat. No. 9,374,673 on Jun. 21, 2016), [1:56-58]	[not included in Priority Chain C]
Mar. 7, 2011	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 12/932,811 filed on Mar. 7, 2011 (now U.S. Pat. No. 8,941,485 on Jan. 27, 2015), [1:59-61]	[not included in Priority Chain C]

Jan. 14, 2011	which is a Divisional Application of U.S. patent application Ser. No. 12/930,735 filed on Jan. 14, 2011 (now U.S. Pat. No. 9,020,687 on Apr. 28, 2015), [1:27-29]	[not included in Priority Chain B]	[not included in Priority Chain C]
Oct. 1, 2009	[not included in Priority Chain A]	[not included in Priority Chain B]	a Divisional Application of U.S. patent application Ser. No. 12/587,042 filed on Oct. 1, 2009 (now U.S. Pat. No. 8,866,876 on Oct. 21, 2014), [2:27-29]
Feb. 13, 2008	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 12/069,899 filed on Feb. 13, 2008 (issued as U.S. Pat. No. 7,924,149 on Apr. 12, 2011), [1:62-64]	[not included in Priority Chain C]
Jun. 22, 2006	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 11/472,706 filed on Jun. 22, 2006 (now U.S. Pat. No. 8,896,485 on Nov. 25, 2014), [1:65-67]	[not included in Priority Chain C]
May 8, 2006	[not included in Priority Chain A]	which is a Divisional Application of U.S. patent application Ser. No. 11/429,864 filed on May 8, 2006 (now U.S. Pat. No. 8,836,580 on Sep. 16, 2014), [2:1-3]	which is a Divisional Application of U.S. patent application Ser. No. 11/429,864 filed on May 8, 2006 (now U.S. Pat. No. 8,836,580 on Sep. 16, 2014), [2:30-32]

Apr. 3, 2006	which is a Divisional Application of U.S. patent application Ser. No. 11/396,843 filed on Apr. 3, 2006 (now U.S. Pat. No. 7,899,583 on Mar. 1, 2011), [1:30-32]	[not included in Priority Chain B]	[not included in Priority Chain C]
May 9, 2005	[not included in Priority Chain A]	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 9, 2005, and [2:4-6]	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 9, 2005. [2:33-35]
Apr. 12, 2005	which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/670,097 filed on Apr. 12, 2005; [1:33-35]	[not included in Priority Chain B]	[not included in Priority Chain C]

(1) Failure to meet specific reference requirement

Under 35 U.S.C. § 120:

No application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing ***the specific reference*** to the earlier filed application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment within that time period as a waiver of any benefit under this section.

The “specific reference” requirement under section 120 “mandates each intermediate application in the chain of priority to refer to the prior applications.” *Medtronic CoreValve, LLC v. Edwards Lifesciences Corp.*, 741 F.3d 1359, 1363 (Fed. Cir. 2014) (cleaned up). If an

application in the priority chain fails to meet this requirement, that renders the priority chain defective such that later applications in the chain lose the benefit of an earlier filing date based on an earlier patent application. *See Encyclopaedia Britannica, Inc. v. Alpine Elecs. of Am., Inc.*, 609 F.3d 1345, 1349-51 (Fed. Cir. 2010). Thus, the burden is on the patentee to demonstrate that this requirement is met and “provide a clear, unbroken chain of priority.” *Droplets, Inc. v. E*TRADE Bank*, 887 F.3d 1309, 1313, 1316 (Fed. Cir. 2018) (citing *Medtronic*, 741 F.3d at 1366). In determining whether the patentee has satisfied its burden, courts may look to the face of the issued patent specification itself. *See id.* at 1313, 1316.

Here, Gamba cannot demonstrate a “clear, unbroken chain of priority” sufficient to meet the “specific reference” requirement. Indeed, as demonstrated in the table below, the convoluted priority chains cited in the ’193 Patent are replete with errors. For example, the ’193 Patent states that U.S. Patent App. No. 15/086,028 is a divisional application of U.S. Patent App. No. 14/285,406. The ’028 Application, however, states that it is a divisional application of U.S. Patent App. No. 14/285,439 (which has since been abandoned). As another example, both the ’193 Patent and U.S. Patent App. No. 15/397,685 (issued as U.S. Patent No. 9,674,684) state that “U.S. patent application Ser. No. 15/237,727 filed on Aug. 16, 2016 ([is] now U.S. Pat. No. 9,420,423 on Jan. 3, 2017),” but this is incorrect. The ’727 Application was issued as U.S. Patent No. 9,538,332, not as 9,420,423. Moreover, because the ’684 Patent, which the ’193 Patent purports to be a divisional of, contains a nearly identical priority disclosure to that of the ’193 Patent, any errors in the priority chain of the ’193 Patent are also present in the ’684 Patent. Likewise, because the ’507 Patent, which the ’193 Patent purports to be a divisional of, contains a nearly identical priority disclosure to that of the ’193 Patent, any errors in the priority chain of the ’193 Patent are also present in the ’507 Patent. The discussion herein with respect to the alleged priority date of the ’193 Patent is

incorporated by reference into the discussion related to the alleged priority date of the '507 and '684 patent and vice-versa.

The above identification is a non-exhaustive list of the errors in the priority chains. Thus, because the '193 Patent and the patent applications to which it claims priority fail to meet the specific reference requirement, the '193 Patent is limited to a priority date of no earlier than its filing date, January 10, 2017. To the extent the specification of the '193 Patent contains written description or enablement support of the Asserted Claims of the '193 Patent, then at least the following patents to which the '193 Patent directly or indirectly claims priority anticipate and/or render obvious the Asserted Claims: U.S. Patent Nos. 9,020,687, 9,204,251, 9,204,257, 8,941,485, and 8,866,673. Attached as Exhibits C-20-C-24 are redline comparisons of the specifications of each of these patents against the '193 Patent's specification.

(2) Lack of written description support for the Asserted Claims

In order to rely on the filing date of an earlier application, 35 U.S.C. § 120 requires that the earlier application include a disclosure that complies with the written description requirement of 35 U.S.C. § 112. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997). To comply with the written description requirement, the specification “must describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed.” *Lizardtech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The written description requirement “guards against the inventor’s overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991). “In order to satisfy the written description requirement, the disclosure as originally filed does not have to

provide *in haec verba* support for the claimed subject matter at issue.” *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000). Nevertheless, “one skilled in the art, reading the original disclosure, **must immediately discern the limitation at issue in the claims.**” *Id.* (emphasis added). “Entitlement to a filing date extends only to the subject matter that is disclosed; not to that which is obvious.” *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 870 (Fed. Cir. 2010) (internal citations omitted). “Therefore the parent application must actually or inherently disclose the elements of the later-filed claims.” *Id.* Further, “if *any* application in the priority chain fails to make the requisite disclosure of subject matter, the later-filed application is not entitled to the benefit of the filing date of applications preceding the break in the priority chain.” *Hollmer v. Harari*, 681 F.3d 1351, 1355 (Fed. Cir. 2012) (emphasis added).

In evaluating whether a disclosure provides sufficient written description, the Federal Circuit has held that “one cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention. In order to satisfy the written description requirement, the blaze marks directing the skilled artisan to that tree must be in the originally filed disclosure.” *Purdue Pharma*, 230 F.3d at 1326-1327 (emphasis added).

Here, the Asserted Claims of the ’193 Patent do not have written description support in at least one application in each priority chain to which the ’193 Patent purports to claim priority. To the extent that there is written description support for the Asserted Claims of the ’193 Patent pursuant to any of the asserted priority chains, such support existed no earlier than October 1, 2009 with the filing of U.S. Patent Application No. 12/587,042.

(a) *Priority Chain A*

The Asserted Claims of the ’193 Patent do not have written description support in the earlier-filed applications to which the ’193 Patent claims priority in Priority Chain A. The ’193 Patent claims priority to the ’097 Application, filed on April 12, 2005. But that application does

not provide written description support for the limitations of the only asserted independent claim of the '193 Patent. Claim 12 of the '193 Patent requires “employing the Bluetooth transceiver integrated within a vehicle, the Bluetooth transceiver configured to transmit a Bluetooth signal detectable by a Bluetooth circuit of a mobile device located within a communication range of the respective Bluetooth transceiver.” '193 Patent at 74:23-27. The '097 Application, however, does not contain written description support for at least this limitation. Indeed, the '097 Application does not use the word “Bluetooth” at all. Nor does the '097 Application direct a POSITA to “employing the Bluetooth transceiver integrated within a vehicle, the Bluetooth transceiver configured to transmit a Bluetooth signal detectable by a Bluetooth circuit of a mobile device located within a communication range of the respective Bluetooth transceiver.” Indeed, as the '193 Patent discloses, several types of “radio frequency” signals exist, such as GPS or Wi-Fi. *See* '193 Patent at 18:5-12 (describing satellites-based GPS and “other radio frequency signal[s]”), 62:15-16 (the “Radio Frequency (RF) tags or beacons 102 can utilize at least one of Bluetooth and Wi-Fi signal protocols”), 6:52-55 (describing how Bluetooth “uses a Radio Frequency (RF) in a 2.4 GHz ISM band” and suggesting existence of other “frequency range[s]” for “radio waves”). Nothing in the provisionals directs a POSITA to specifically use “Bluetooth transceivers,” much less a “Bluetooth transceiver integrated within a vehicle, the Bluetooth transceiver configured to transmit a Bluetooth signal detectable by a Bluetooth circuit of a mobile device located within a communication range of the respective Bluetooth transceiver.”

Thus, at least as to the Asserted Claims, the '193 Patent is not entitled to claim the benefit of the priority of the filing date of the '097 Application. In addition, the Asserted Claims of the '193 Patent do not have written description support in U.S. Patent No. 7,899,583, identified as the parent application to the '193 Patent, because the application does not disclose at least “employing

the Bluetooth transceiver integrated within a vehicle.” To the contrary, the ’583 Patent’s specification discloses that unlike prior art, “our system [is] based on sensors that detect the empty space **where most of the other[s] detect the car.**” ’583 Patent at 6:63-64. Indeed, during prosecution of the ’583 Patent, the applicant further highlighted this same language in responding to the Examiner’s rejections. See ’583 Patent File History, Applicant Arguments/Remarks Made in an Amendment (Feb. 24, 2009); Applicant Arguments/Remarks Made in an Amendment (May 19, 2009). Thus, at least because the limitation requiring “employing the Bluetooth transceiver integrated within a vehicle” lacks written description support in the ’843 Application, the Asserted Claims of the ’193 Patent are not entitled to claim the benefit of the filing date of the ’843 Application. To the extent that there is written description support for the Asserted Claims of the ’193 Patent under Priority Chain A, such support existed no earlier than January 14, 2011 with the filing of U.S. Patent Application No. 12/930,735.

(b) Priority Chain B

The Asserted Claims of the ’193 Patent do not have written description support in the earlier-filed applications to which the ’193 Patent claims priority in Priority Chain B. The Asserted Claims of the ’193 Patent are not entitled to claim priority to the ’421 Application or any earlier-filed applications in Priority Chain B because “[i]f there is a continuous chain of copending nonprovisional applications, each copending application must disclose the claimed invention of the later-filed application in the manner provided by 35 U.S.C. 112(a) in order for the later-filed application to be entitled to the benefit of the earliest filing date.” MPEP § 211.05 (citing *Regents of the University of Minnesota v. Gilead Scis., Inc.*, 61 F.4th 1350, 1358, 1360 (Fed. Cir. 2023)). The ’193 Patent claims priority to U.S. Patent No. 9,374,673; but there is no written description support in the ’673 Patent for at least asserted claim 12, which requires “registering an exact parking space location of the vehicle on the mobile device using information provided by the

bluetooth transceiver; and subsequently using the mobile device to provide navigation to the parking space location where the vehicle is parked.” ’193 Patent at 74:27-33. The ’673 Patent has no disclosures regarding “registering an exact parking space location of the vehicle.” Indeed, the word “parking” appears nowhere in the specifications of the ’673 Patent.

Even setting aside the lack of written description support for the Asserted Claims of the ’193 Patent in the ’673 Patent, the Asserted Claims also lack written disclosure in several applications filed earlier than the ’673 Patent. For example, the Asserted Claims of the ’193 Patent also lack written description support in U.S. Patent No. 7,924,149, at least as to the limitation requiring “employing the Bluetooth transceiver integrated within a vehicle.” The ’149 Patent discloses “Bluetooth beacons (whose signal is sent by waypoints)” and that beacons must be in “a known location.” ’149 Patent at 10:24-27, 11:21-24, 21:10-15. The ’485 Patent, of which the ’149 Patent is a divisional, teaches that “[a] waypoint is a fixed location with known address location, longitude and latitude and coordinates.” ’485 Patent at 14:57-58. A Bluetooth transceiver integrated within a vehicle is not “[a] waypoint is a fixed location with known address location, longitude and latitude and coordinates.” Thus, the ’149 Patent does not have written description support for “employing the Bluetooth transceiver integrated within a vehicle” and the Asserted Claims of the ’193 Patent are not entitled to claim priority to the ’899 Application. The Asserted Claims of the ’193 Patent are not entitled to claim priority to U.S. Patent No. 8,896,485 for similar reasons.

The Asserted Claims of the ’193 Patent also lack written description support in U.S. Provisional Application 60/678,947, filed on May 9, 2005, which does not refer to “Bluetooth” at all. Thus, for similar reasons as the lack of support as to the ’097 Application, the Asserted Claims of the ’193 Patent are also not entitled to claim priority to the ’947 Application. To the extent that

there is written description support for the Asserted Claims of the '193 Patent under Priority Chain B, such support existed no earlier than December 1, 2015 with the filing of U.S. Patent Application No. 14/285,209.

(c) Priority Chain C

The Asserted Claims of the '193 Patent do not have written description support in the earlier-filed applications to which the '193 Patent claims priority in Priority Chain C. The '193 Patent claims priority to the '947 Application. For the reasons stated above, the Asserted Claims of the '193 Patent are not entitled to claim priority to the '947 Application. In addition, the Asserted Claims of the '193 Patent do not have written description support in U.S. Patent No. 8,836,580 because the application does not disclose at least “employing the Bluetooth transceiver integrated within a vehicle.” Like the '149 Patent, the '580 Patent “relies upon a dense grid of antennae, each having a well-known position” and requires “waypoints” “in a known location.” '580 Patent File History, May 8, 2006 Application Specification at 8-11; *see also* Dec. 12, 2008 Amendment/Request for Reconsideration-After Non-Final Rejection at 6 (“our system is deferent [sic] by providing NAVIGATION and not tracking system, it use the facility mapping and sensors / Tags **in a known location** to allow navigation.”) (emphasis added); July 31, 2009 Amendment/Request for Reconsideration-After Non-Final Rejection at 20 (same); Dec. 11, 2009 Amendment/Request for Reconsideration-After Non-Final Rejection at 14 (same). As noted above, within the context of the '193 Patent family, “[a] waypoint is a fixed location with known address location, longitude and latitude and coordinates.” '485 Patent at 14:57-58; *see, e.g.*, '580 Patent File History, May 8, 2006 Application Specification at 25 (using identical language). Thus, at least because the limitation requiring “employing the Bluetooth transceiver integrated within a vehicle” lacks written description support in the '580 Patent, the Asserted Claims of the '193 Patent are not entitled to claim the benefit of the filing date of the '864 Application. To the extent that

there is written description support for the Asserted Claims of the '193 Patent under Priority Chain C, such support existed no earlier than October 1, 2009 with the filing of U.S. Patent Application No. 12/587,042.

To the extent that there is written description support for the Asserted Claims of the '193 Patent pursuant to any of the asserted priority chains, such support existed no earlier than October 1, 2009 with the filing of U.S. Patent Application No. 12/587,042.

(3) Improperly designated divisional application

In addition to the lack of written description support for the Asserted Claims in the applications to which it claims priority, the '193 Patent is also not entitled to the asserted priority date because at least U.S. Patent No. 9,538,332 (the "'332 Patent"), which is included in each of the three priority chains, improperly added new matter that was not disclosed in the application that it purports to be a divisional of.

A divisional application is "carved out of a pending application and disclos[es] and claim[s] only subject matter disclosed in the earlier or parent application." A patent application "cannot be a divisional" of a parent application where it "contains new matter that was not present in the [parent] application." *G.D. Searle LLC v. Lupin Pharms., Inc.*, 790 F.3d 1349, 1354 (Fed. Cir. 2015) (application could not be a divisional, regardless of the fact that it purported to be a divisional, because it contained new matter not present in parent application). "[N]ew matter is not entitled to the priority date of the original application." *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353, 1361 (Fed. Cir. 2008).

New matter was at least added in the '332 Patent, which issued from Application No. 15/237,727. Each of the three priority chains purports to claim priority to the '332 Patent. The '332 Patent is purportedly a divisional application of U.S. Patent No. 9,420,423, which issued from

Application No. 15/086,028. On its face, the '332 Patent contains new matter not present in the '423 Patent, which it purports to be a “divisional” application of. Indeed, the '332 Patent is fifty-four pages long, whereas the '423 Patent, the purported parent, is only twenty-nine pages long.

The '332 Patent contains new matter pertaining to at least the following subject matter:

- application of “machine-learning techniques to the task of inferring aspects of the user’s status from a stream of input from small RF tags or beacons,” (332 Patent at 3:53-58)
- use of “Radio Frequency IDentification (RFID) (long range type) technology,” (*id.* at 3:64-65)
- using “RF tags or beacons ... adapted to broadcast a unique identification (ID) using any suitable wireless broadcasting technology that includes an identification portion in a unidirectional pulsing signal” and “[a]n association application [to] decode the received identification portion in a unidirectional pulsing signal” (*id.* at 4:1-14)
- “capabilities to display a real-time representation of navigating directly from the sensors without a central system; and without using a Global Positioning System (GPS) based system directly to the user” (*id.* at 4:41-45)
- “navigation system automatically detects a beacon signal transmitted directly from the RF beacon. The process does not require any bi-directional communication, such as cellular communication, to determine the location of the mobile device” (*id.* at 4:48-52), and
- Use of a “navigator application” with an “overlay over an existing navigation system mapping, a floor map, floor images, and the like as a real-time floating display, or as a waypoint to overcome the limitations of Global Positioning System (GPS) based systems and the existing mapping systems,” which “may prompt the user to travel in a particular direction” (*id.* at 7:49-8:67).

The above is a non-exhaustive list of the new matter added in the '332 Patent that was not disclosed in the '423 Patent. Thus, because new matter was added, the '332 Patent is only entitled to claim priority as of its filing date on August 16, 2016; and, the '193 Patent is likewise only entitled to claim priority as of August 16, 2016.

2. Application of the Prior Art to the Claims

The charts below identify references or exemplary combinations of references that either anticipate or render obvious the Asserted Claims. The discussion below sets forth rationales and motivations for combining the respective references with respect to the claimed features they disclose. For each of the Asserted Patents and for each of the references or combinations identified, Defendants may also rely on “admitted prior art,” which include statements in the specification or during prosecution identifying the work of others as “prior art” are admissions that can be relied on for anticipation and obviousness purposes. *See Riverwood Int’l Corp. v. R. A. Jones & Co.*, 324 F. 3d 1346, 1354 (Fed. Cir. 2003).

Prior Art	Asserted Claims of the '684 Patent	
	52	53
Davies	X	X
Seraj	X	X
White	X	X
Wrappe	X	X
Gum	X	X
Hiltunen	X	X
Masuoka	X	X
Quigley	X	X
Vanluijt	X	X
Challenge	X	X
Cricket	X	X
Place Lab	X	X
RADAR	X	X
Maletz	X	X
ActiveCampus	X	X
B-MAD System	X	X
Bluetooth 1.1	X	X
Bluetooth 4.0	X	X
iBeacon	X	X
Scanning4Life	X	X
NAV4	X	X
WiFi Standard	X	X

Prior Art	Asserted Claims of the '684 Patent	
	52	53
Mendelson I ³	X	X
Mendelson II ⁴	X	X
Mendelson III ⁵	X	X
Mendelson IV ⁶	X	X
Mendelson V ⁷	X	X

Prior Art	Asserted Claims of the '684 Patent – Combinations	
	52	53
Masuoka, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X
Place Lab, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, and/or Masuoka.	X	X
Cricket, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X
Quigley, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X

³ To the extent the specification of the Asserted Patent contains written description or enablement support of the Asserted Claims, this reference is prior art and necessarily anticipates and/or renders obvious the Asserted Claims under at least pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a) under the various potential priority dates described in Defendants' Invalidity Contentions. Defendants propounded an interrogatory requesting Plaintiff Gamba to, "[f]or each element of each Asserted Claim," identify the portion(s) of the specification that it "contend[s] provide written description support, definiteness, and an enabling disclosure pursuant to 35 U.S.C. § 112," and "the earliest appearance or other support of such portion(s) in the chain of parent applications." 2025 09 08 Defendants' First Set of Interrogatories (No. 1-14), Interrogatory No. 12. Gamba did not substantively respond to this interrogatory.

⁴ See above with respect to Mendelson I, similar reasoning applies here.

⁵ See above with respect to Mendelson I, similar reasoning applies here.

⁶ See above with respect to Mendelson I, similar reasoning applies here.

⁷ See above with respect to Mendelson I, similar reasoning applies here.

Prior Art	Asserted Claims of the '684 Patent – Combinations	
	52	53
Gum, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X
Seraj, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X
Hiltunen, in view of Masuoka, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Vanluijt, in view of Masuoka, Hiltunen, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Maletz, in view of Masuoka, Hiltunen, Vanluijt, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Zechlin, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Carroll, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Davies, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Kenny, in view of Masuoka, Hiltunen, Maletz, Vanluijt, Maletz, Zechlin, Carroll, Davies, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X

Prior Art	Asserted Claims of the '684 Patent – Combinations	
	52	53
Brust, in view of Masuoka, Hiltunen, Maletz, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Phillips, in view of Masuoka, Hiltunen, Maletz, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
Active Campus, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X
B-Mad, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, and/or Pattabiraman.	X	X
Challenge, in view of Masuoka, Hiltunen, Maletz, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Cricket, RADAR, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
RADAR, in view of Masuoka, Hiltunen, Maletz, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Cricket, Challenge, Bluetooth 1.1, Bluetooth 4.0, IEEE 802.11 (WiFi Standard) and/or Place Lab	X	X
iBeacon, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, Scanning4Lift, Cricket and/or Pattabiraman.	X	X
Scanning4Lift, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Cricket and/or Pattabiraman.	X	X

Prior Art	Asserted Claims of the '507 Patent						
	57	58	59	63	64	77	78
Brust	X	X	X	X	X	X	X
Chen	X	X	X	X	X	X	X
Davies	X	X	X	X	X	X	X
Seraj	X	X	X	X	X	X	X
White	X	X	X	X	X	X	X
Kenny	X	X	X	X	X	X	X
Carroll	X	X	X	X	X	X	X
Davis	X	X	X	X	X	X	X
Gum	X	X	X	X	X	X	X
Hiltunen	X	X	X	X	X	X	X
Masuoka	X	X	X	X	X	X	X
Phillips	X	X	X	X	X	X	X
Quigley	X	X	X	X	X	X	X
Vanluijt	X	X	X	X	X	X	X
Challenge	X	X	X	X	X	X	X
Cricket	X	X	X	X	X	X	X
Place Lab	X	X	X	X	X	X	X
RADAR	X	X	X	X	X	X	X
Maletz	X	X	X	X	X	X	X
Zechlin	X	X	X	X	X	X	X
ActiveCampus	X	X	X	X	X	X	X
B-MAD System	X	X	X	X	X	X	X
Bluetooth 1.1	X	X	X	X	X	X	X
Bluetooth 4.0	X	X	X	X	X	X	X
iBeacon	X	X	X	X	X	X	X
Gupta	X	X	X	X	X	X	X
Pattabiraman	X	X	X	X	X	X	X
Scanning4Life	X	X	X	X	X	X	X
NAV4	X	X	X	X	X	X	X
WiFi Standard	X	X	X	X	X	X	X
Mendelson I ⁸	X	X	X	X	X	X	X

⁸ To the extent the specification of the Asserted Patent contains written description or enablement support of the Asserted Claims, this reference is prior art and necessarily anticipates and/or renders obvious the Asserted Claims under at least pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a) under the various potential priority dates described in Defendants' Invalidity Contentions. Defendants propounded an interrogatory requesting Plaintiff Gamba to, "[f]or each element of each Asserted Claim," identify the portion(s) of the specification that it "contend[s] provide written description support, definiteness, and an enabling disclosure pursuant to 35 U.S.C. § 112," and "the earliest appearance or other support of such portion(s) in the chain of parent applications." 2025 09 08 Defendants' First Set of Interrogatories (No. 1-14), Interrogatory No. 12. Gamba did not substantively respond to this interrogatory.

	Asserted Claims of the '507 Patent						
Prior Art	57	58	59	63	64	77	78
Mendelson II ⁹	X	X	X	X	X	X	X
Mendelson III ¹⁰	X	X	X	X	X	X	X
Mendelson IV ¹¹	X	X	X	X	X	X	X
Mendelson V ¹²	X	X	X	X	X	X	X

	Asserted Claims of the '507 Patent – Combinations						
Prior Art	57	58	59	63	64	77	78
Masuoka, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
Place Lab, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Scanning4Life,	X	X	X	X	X	X	X

⁹ See above with respect to Mendelson I, similar reasoning applies here.

¹⁰ See above with respect to Mendelson I, similar reasoning applies here.

¹¹ See above with respect to Mendelson I, similar reasoning applies here.

¹² See above with respect to Mendelson I, similar reasoning applies here.

Prior Art	Asserted Claims of the '507 Patent – Combinations						
	57	58	59	63	64	77	78
Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V							
Quigley, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
Gum, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X

Prior Art	Asserted Claims of the '507 Patent – Combinations						
	57	58	59	63	64	77	78
Seraj, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
Active Campus, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
B-Mad, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth	X	X	X	X	X	X	X

Prior Art	Asserted Claims of the '507 Patent – Combinations						
	57	58	59	63	64	77	78
1.1, Bluetooth, 4.0, iBeacon, Active Campus, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V							
Cricket, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
Mendelson I, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman,	X	X	X	X	X	X	X

Prior Art	Asserted Claims of the '507 Patent – Combinations						
	57	58	59	63	64	77	78
Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V							
Mendelson II, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson III, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
Mendelson III, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson IV, and/or Mendelson V	X	X	X	X	X	X	X
Mendelson IV, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin,	X	X	X	X	X	X	X

Prior Art	Asserted Claims of the '507 Patent – Combinations						
	57	58	59	63	64	77	78
Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, and/or Mendelson V							
Mendelson V, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, and/or Mendelson IV	X	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent					
	12	13	15	16	17	18
U.S. Patent Application No. 2002/0082025 ("Baese")	X	X	X	X	X	X
U.S. Patent No. 6,405,125 ("Ayed '125")	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent					
	12	13	15	16	17	18
U.S. Patent App. No. 2003/0020638 ("Sari")	X	X	X	X	X	X
U.S. Patent No. 6,405,125 ("Brust")	X	X	X	X	X	X
U.S. Patent App. No. 2005/0137786 ("Breed")	X	X	X	X	X	X
U.S. Patent App. No. 2003/0055560 ("Phillips")	X	X	X	X	X	X
U.S. Patent App. No. 2006/0111835 ("Baker")	X	X	X	X	X	X
António S. Câmara and António Eduardo Dias, <i>Location-Based Services for WAP Phone Users in a Shopping Centre</i> , in <i>Applied GIS and Spatial Analysis</i> 55-70 (John Stillwell et al. eds., 2004) ("DiWay")	X	X	X	X	X	X
Michael Miller, <i>Discovering Bluetooth</i> (Suzanne Goraj et al. eds., 2001) ("Miller")	X	X	X	X	X	X
The Place Lab System	X	X	X	X	X	X
James Nord et al., <i>An Architecture for Location Aware Applications</i> , in 9 Proceedings of the 35th Annual Hawaii International Conference on System Sciences, 293 (2002). ("Alipes")	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent					
	12	13	15	16	17	18
Antonio Kruger et al., <i>The Connected User Interface Realizing a Personal Situated Navigation Service</i> (2004) (“BMW Personal Navigator”)	X	X	X	X	X	X
The Socket Bluetooth GPS Nav Kit (“Socket”)	X	X	X	X	X	X
The HP iPAQ hw6500 (“HP iPAQ”)	X	X	X	X	X	X
The Palm Tungsten 3 with GPS Navigator Kit (“Palm with GPS”)	X	X	X	X	X	X
The Garmin iQue M5 (“Garmin iQue”)	X	X	X	X	X	X
The Garmin GPS 10 (“GPS 10”)	X	X	X	X	X	X
Mendelson I ¹³	X	X	X	X	X	X
Mendelson II ¹⁴	X	X	X	X	X	X
Mendelson III ¹⁵	X	X	X	X	X	X
Mendelson IV ¹⁶	X	X	X	X	X	X
Mendelson V ¹⁷	X	X	X	X	X	X

¹³ To the extent the specification of the Asserted Patent contains written description or enablement support of the Asserted Claims, this reference is prior art and necessarily anticipates and/or renders obvious the Asserted Claims under at least pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a) under the various potential priority dates described in Defendants’ Invalidity Contentions. Defendants propounded an interrogatory requesting Plaintiff Gamba to, “[f]or each element of each Asserted Claim,” identify the portion(s) of the specification that it “contend[s] provide written description support, definiteness, and an enabling disclosure pursuant to 35 U.S.C. § 112,” and “the earliest appearance or other support of such portion(s) in the chain of parent applications.” 2025 09 08 Defendants’ First Set of Interrogatories (No. 1-14), Interrogatory No. 12. Gamba did not substantively respond to this interrogatory.

¹⁴ See above with respect to Mendelson I, similar reasoning applies here.

¹⁵ See above with respect to Mendelson I, similar reasoning applies here.

¹⁶ See above with respect to Mendelson I, similar reasoning applies here.

¹⁷ See above with respect to Mendelson I, similar reasoning applies here.

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
Baese in view of: • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket System • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
Ayed '125 in view of: • Baese • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Palm with GPS • Garmin iQue • GPS 10						
Sari in view of: • Baese • Ayed '125 • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
Brust in view of: • Baese • Ayed '125 • Sari • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10						
U.S. Patent App. No. 2003/0112154 ("Yoakum") in view of: • Baese • Ayed '125 • Sari • Brust • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
Breed in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Phillips • Baker • DiWay • Miller	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10						
Phillips in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
Baker in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Breed • Phillips • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10						
DiWay in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
Miller in view of:	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10						
The Place Lab System in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Palm with GPS • Garmin iQue • GPS 10						
Alipes in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
Konrad Lorincz & Matt Welsh, <i>MoteTrack: A Robust, Decentralized Approach to RF-Based Location Tracking</i> , in 3479 Location-and Context-Awareness, LoCA 2005, 63-82 (Thomas Strang & Claudia Linnhoff-	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
Popien eds., 2005) ("MoteTrack") in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10						
BMW Personal Navigator in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • Socket	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• HP iPAQ • Palm with GPS • Garmin iQue • GPS 10						
Socket in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • HP iPAQ • Palm with GPS • Garmin iQue • GPS 10	X	X	X	X	X	X
HP iPAQ in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Alipes • MoteTrack • BMW Personal Navigator • Socket • Palm with GPS • Garmin iQue • GPS 10						
Palm with GPS in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Garmin iQue • GPS 10	X	X	X	X	X	X
Garmin iQue in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed	X	X	X	X	X	X

Prior Art	Asserted Claims of the '193 Patent – Combinations					
	12	13	15	16	17	18
• Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • GPS 10						
GPS 10 in view of: • Baese • Ayed '125 • Sari • Brust • Yoakum • Breed • Phillips • Baker • DiWay • Miller • The Place Lab System • Alipes • MoteTrack • BMW Personal Navigator • Socket • HP iPAQ • Palm with GPS • Garmin iQue	X	X	X	X	X	X

3. Obviousness and Motivations to Combine

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

A person of ordinary skill would have been motivated to combine the prior art cited in the Exhibits based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. For example, the identified prior art references for the Asserted Patents, including portions cited in attached Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24, are analogous prior art to the subject matter of the Asserted Claims and each other, and are properly combinable. Because these prior art references and the Asserted Patents are from the same field of endeavor (*see, e.g.*, '684 Patent, 2:32-38; '507 Patent, 2:47-53; '193 Patent, 2:37-43), it would have been obvious for a POSITA to either ascertain any missing functionality claimed and/or look from one piece of prior art to another in order to find any missing functionality the POSITA desired to implement. Moreover, these references are reasonably pertinent to the problems purportedly addressed by the Asserted Patents. The identified prior art references for each of the Asserted Patents, including portions cited in attached Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims.

On such bases, on a limitation-by-limitation basis, Defendants expressly intend to combine one or more prior art items identified in the Exhibits with each other to address any further

contention from Plaintiff that a particular prior art item supposedly lacks one or more limitations of an Asserted Claim. In other words, Defendants contend that each charted prior art item can be combined with other charted prior art items when a particular prior art item lacks or does not explicitly disclose a limitation or feature of an Asserted Claim. The suggested obviousness combinations described below are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, if Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Defendants reserve the right to identify other prior art references that, when combined with the anticipatory prior art, would render the Asserted Claims obvious despite an allegedly missing limitation. Defendants will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

A person of skill in the art would have been motivated to combine the identified prior art items. As the United States Supreme Court held in *KSR*, 550 U.S. at 416: “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” The Supreme Court further held that, “[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *Id.* at 417.

The Supreme Court has further held that “in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 420. It is

sufficient that a combination of limitations was “obvious to try” holding that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” *Id.* at 421.” In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.” *Id.* Finally, the Supreme Court recognized that “[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known limitations, deprive prior inventions of their value or utility.” *Id.* at 419. All of the following rationales recognized in *KSR* support a finding of obviousness with respect to each of the obviousness combinations disclosed herein:

- (1) Combining prior art limitations according to known methods to yield predictable results;
- (2) Simple substitution of one known limitation for another to obtain predictable results;
- (3) Use of known technique to improve similar devices (methods, or products) in the same way;
- (4) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (5) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (6) Known work in one field of endeavour may prompt variations of it for use in either the same field or a different one based on design incentives or other

market forces if the variations would have been predictable to one of ordinary skill in the art; and

- (7) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Certain of these rationales are discussed with greater specificity below, but all apply, and the lack of a more specific discussion of some should not be taken to imply or admit that others do not also apply as the discussion below is intended to provide further explanation regarding certain of the specific rationales. As Plaintiff's positions regarding claim construction, specific prior art, specific combinations and/or the state of the art at the time of invention have not yet been disclosed, additional explanation regarding obviousness and/or motivation to combine specific references and knowledge may become relevant and appropriate. Accordingly, Defendants reserve the right to further identify and explain motivations to combine as the need arises based on positions taken by Plaintiff and/or rulings issued by the Court.

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

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the priority date, as detailed below. The limitations recited in the Asserted Claims are mere combinations and modifications of these well-known limitations. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner

by combining or modifying the individual limitations that were already known in the art to yield predictable results.

Subject to the foregoing, Defendants identify the following exemplary reasons that skilled artisans would have combined limitations of the prior art to render obvious the Asserted Claims. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

a) Motivations Identified During Prosecution

Defendants hereby expressly incorporate by reference any statements and reasons set forth by the Examiner during prosecution of the Asserted Patents and related patent applications, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims.

b) Combinations of Related References

In some instances, multiple prior art publications and/or physical references discuss or address the same or substantially similar underlying system or other project, such as multiple patents or publications discussing the same subject matter. Where multiple references discuss or relate to the same or related underlying projects, systems, or other subject matter, it would have been obvious to combine the discussions and disclosures of the references as they would be understood to describe features or potential features of the underlying project, system, or subject matter. Similarly, where one reference cites or discusses other references or their teachings, or references have one or more authors in common and a related area of subject matter, or have a common assignee, it would have been obvious to consider the teachings of the references in combination with each other due to the express relationships and commonalities between the references.

c) Specific Examples of Motivations to Combine and Additional Obviousness Considerations

(1) U.S. Patent No. 9,674,684

The '684 Patent relates “generally to the field of a beacon system for use in a building” and discloses a method for beacon deployment to support Bluetooth-enabled LBS applications. '684 Patent at 2:34-38. More particularly, the Asserted Claims of the '684 Patent relate to activating location-based services using Bluetooth- or WiFi-enabled beacon signals. *Id.* at Claim 52. This generally requires deploying multiple beacons that unidirectionally transmit or broadcast Bluetooth or WiFi signals, with beacon information encoded in the identification segment of those signals. *Id.*

The '684 Patent aims to overcome shortcomings of GPS-based location technologies—particularly their inability to properly function indoors and in urban environments—by providing lower cost, beacon-based infrastructure for context-aware location services. *Id.* at 2:45-47, 60-67; Claim 53. All of the beacon-based deployment and relatedly enabled LBS applications disclosed in the '684 Patent were well-known in the prior art at the time of the '684 Patent's filing.

(a) Combination of Bluetooth Standards with any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, and Cricket

A POSITA would have had reasons to combine Bluetooth Standards (either version 1.1 or version 4.0) with any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, and Cricket. All of these references would be considered analogous art because they address problems and solutions within the broader field of wireless communication and device interoperability, which are at the core of the Bluetooth Standard. All of the references are fundamentally concerned with the use of wireless communication technologies to enable interaction, identification, or localization of electronic devices within a physical environment. Each reference addresses, in some form, the

challenges and solutions associated with enabling devices to communicate, discover each other, or determine their location using wireless signals.

Additionally, the Bluetooth Standard are foundational technical documents that set forth the protocols, architecture, and operational procedures for short-range wireless communication between devices. They address the physical (radio) layer, baseband, link management, security, and higher-level protocols, and are expressly intended for implementers seeking to enable interoperable wireless connectivity in a wide range of electronic devices.

A POSITA would recognize that elements such as device discovery, authentication, data transfer, and service discovery are issues common to all the references. For example, Masuoka discloses a memory management technique for mobile devices, and Place Lab discloses a method for location determination using wireless signals. A POSITA would be motivated to combine these with the Bluetooth Standard to enable enhanced device functionality (e.g., location-aware Bluetooth devices with efficient signal detection), using known methods for integrating protocol layers and device features. The predictability of such combinations is supported by the Bluetooth Standard's explicit design for interoperability and extensibility.

Furthermore, a POSITA would have been motivated to combine Bluetooth with the above mentioned references at least because they explicitly suggests using Bluetooth. For example, Place Lab repeatedly references Bluetooth as one of the primary beacon technologies used for device positioning. Place Lab, § 5.4. The system is designed to detect and utilize Bluetooth beacons (alongside Wi-Fi and GSM) to estimate device location. *Id.* Place Lab “looks for Bluetooth beacons likely to remain fixed such as printers, vending machines, and access points,” and discuss the technical challenges and benefits of using Bluetooth for location-based services. *Id.* Place Lab also details the integration of Bluetooth beacon detection into the Place Lab

architecture and APIs, confirming that Bluetooth is a foundational element of the system's design and operation. *Id.* Similarly, Quigley also expressly mentions Bluetooth. *See e.g.*, Quigley, cls. 15, 31, 45, 59. It describes a proximate location detection system that leverages "Bluetooth, Wi-Fi, or other wireless beacons" to allow a device to determine its location within a mapped area. *Id.* The patent discusses the use of Bluetooth for passive detection, privacy-preserving location determination, and scalable delivery of location-tied data. Bluetooth is cited as a preferred technology for implementing the beaconing and detection methods described in the invention. *See e.g., id.*, Abstract, Fig. 1, [0072].

- (b) Combination of Hiltunen with any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift and Cricket

A POSITA would have had reasons to combine Hiltunen with any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket. All of these references are directed to beacon-based wireless communication systems that address complementary challenges. Each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket focuses on location determination using beacons, while Hiltunen focuses on secure message delivery using beacon infrastructure. A POSITA would have recognized that the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket would benefit from employing Hiltunen's privacy architecture of encrypting or otherwise restricting accessibility to beacon signals. For example, in a scenario where a museum has deployed a series of beacons in the museum, the museum may benefit from implementing access control by allowing only paying customers' devices to access the beacons deployed throughout the museum. Without Hiltunen's privacy architecture, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, iBeacon, and Cricket would

indiscriminately respond to any device, defeating the purpose of access control. Similarly, in a logistics setting, a company may deploy beacons in its warehouses but only want affiliated partners or employees to access the beacon identifiers and resulting location services. By applying Hiltunen's teachings, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket could enforce policies that restrict beacon access, ensuring that location determination is secure and limited to authorized parties

Additionally, from a technical standpoint, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket utilize short-range wireless beacon transmissions such as (e.g., Bluetooth, WLAN, or infrared), which is the same technology contemplated in Hiltunen. Because of this overlap, the beacon hardware, transmission protocols, and client-side devices (mobile phones, PDAs, laptops) described in each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket and that of Hiltunen are technically compatible and can be implemented on the same platform without undue experimentation.

The combined system also predictably yields a secure, location-triggered messaging architecture. A POSITA would have recognized that the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket could be integrated with Hiltunen's private message transmission such that the message can be communicated securely to intended recipients.

- (c) Combination of Maletz with any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket

A POSITA would have had reasons to combine Maletz with any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift and Cricket. All of these

references are directed to solving problems in the same field of technology: location-based services using short-range beacons and mobile devices. Each reference addresses complementary aspects of that problem, and a POSITA would have been motivated to combine their teachings to achieve a more complete and robust system.

Each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket disclose a beacon architecture that utilize short-range beacons to determine the location of a user. Maletz complements these teachings by disclosing a communication system providing location-dependent and situation-aware services. In particular, Maletz teaches information beacons that broadcast short-range signals (e.g., Bluetooth, WLAN), but Maletz emphasizes the delivery of services and content to mobile users based on beacon location. Maletz, ¶¶0004 (“The information beacon emits via a wireless communication link (e.g. Bluetooth, GSM, GPRS, UMTS or WLAN) information data providing information on the location of the beacon and services offered by the provider of the beacon.”); disclosing that a beacon could provide “the location of the store and its opening hours” of a pharmacy or provide “latest offers of the store,” navigation to a beacon.”), 0005, 0006 (disclosing that beacons can provide “additional services like E-commerce”). Importantly, Maletz extends the capabilities of beacons by teaching that beacons can be implemented not only as stationary infrastructure but also as mobile devices themselves (e.g., a taxi driver’s phone acting as a beacon). Maletz, ¶¶0014 (“The idea underlying the present invention is thus to use a mobile communication device as an information beacon. This solution offers a simple and cost-saving way to obtain an information beacon since mobile communication devices of the present generation already contain most of the elements and features which are necessary to act as an information beacon.”), 0017 (disclosing that a taxi driver can use his mobile communication device to “inform potential clients on the actual location of his taxi.”),

0023, 0024 (explaining how the “data emitted by the taxi” is received by users in proximity to the taxi). Furthermore, Maletz describes that the beacons may be connected to external networks such as the Internet to obtain additional information or enable e-commerce and other advanced services. Maletz, ¶¶0006 (disclosing that a “beacon connects to another information network (e.g., to the Internet),” for example, “to implement additional services like E-commerce or the like”), 0026 (“As will be readily understood, a plurality of other institutions which offer public services might provide wireless information by using an information beacon of the present invention. Potential providers are e.g. hotels, restaurants, cinemas and the like.”), 0026 (“[T]he beacon could also be used to serve as an access point for accessing e.g. the Internet or another information network.”), 0028, 0034 (“Further, the communication system could be used for E-commerce services wherein the GSM link of the telephone 10 is used to contact a financial institution in order to authorise a financial transaction.”). A POSITA would recognize that after a mobile device determines its location using location determining features disclosed in any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket, it would be beneficial for that mobile device to be able to transmit its location to other nearby devices. For example, in a scenario where a taxi driver is driving in a parking lot where GPS signal is weak or unavailable, the taxi driver could utilize a mobile device to communicate with the beacons deployed in the parking lot to determine the mobile device’s location, then the taxi driver could apply Maletz’s teachings to his mobile device so that the mobile device acts as a beacon and transmits its location to potential customers nearby.

A POSITA would have been motivated to combine these teachings because doing so yields predictable benefits. Each of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket disclose a beacon architecture that utilize short-range beacons

to determine the location of a user. Maletz provides mechanisms for turning that location determination into actionable services and interactions, including dynamically updated data from the Internet and mobile-service-based beacons. Maletz, ¶¶0006 (disclosing that a “beacon connects to another information network (e.g., to the Internet),” for example, “to implement additional services like E-commerce or the like”), 0017 (disclosing that a taxi driver’s mobile device can act as a beacon and “inform potential clients on the actual location of his taxi.”), 0022–0024. Combining Maletz with any of the beacon architecture disclosed in Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, and Cricket produces a system that not only determines a user’s fine-grained position with reliability but also automatically delivers relevant, up-to-date location-based services tailored to that position, as well as adding security and ensuring that beacon messages are received only by intended recipients.

The combination would also have been technically straightforward. All references rely on the same short-range wireless technologies (e.g., Bluetooth, WLAN, GSM/UMTS), and all references describe mobile devices equipped with processors, storage, and radios to handle beacon transmissions. A POSITA would have readily recognized that the same beacon hardware that transmits identifiers for location discrimination (such as in any of Masuoka, Place Lab, Quigley, Seraj, Active Campus, B-Mad, iBeacon, Scanning4Lift, and Cricket) could also be configured to provide content and connect to external networks and configured to transmit to further nearby devices (Maletz).

(d) Additional Combinations

A POSITA would also have had reasons to combine additional references noted below for at least the reasons provided in Sections II.B.3.c)(1)(a), II.B.3.c)(1)(b), II.B.3.c)(2)(1). Additionally, a POSITA would have also been motivated to combine the following combinations because they all disclose systems that rely on compatible wireless transmissions such as Bluetooth,

Wi-Fi (802.11), GPS, and related beacon protocols to enable location determination and location-based services. A POSITA would have recognized that they are technically compatible and that combining their teachings would yield predictable improvements without undue experimentation. The disclosed devices all operate on standard radios and protocols, which a POSITA would expect to work together without modification. As such, integrating the teachings of one reference into the framework of another would have been straightforward and predictable. Because all of these systems rely on the same family of wireless transmissions and beacon architectures, their combination would not require undue experimentation, but rather represent a routine application of familiar engineering practices.

- Masuoka, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Place Lab, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Quigley, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.

- Gum, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Seraj, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Active Campus, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, B-Mad, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- B-Mad, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, Challenge, Cricket, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Cricket, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon,

Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.

- iBeacon, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, Scanning4Lift, Cricket Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Scanning4Lift, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Cricket Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Mendelson I, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V
- Mendelson II, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson III, Mendelson IV, and/or Mendelson V

- Mendelson III, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson IV, and/or Mendelson V
- Mendelson IV, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, and/or Mendelson V
- Mendelson V, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Active Campus, B-Mad, Challenge, Cricket, RADAR, Bluetooth Specification 1.1, Bluetooth Specification 4.0, WiFi Standard, Place Lab, Gupta, iBeacon, Scanning4Lift, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, and/or Mendelson IV

(2) U.S. Patent No. 9,961,507

The '507 Patent (much like the '684 Patent) relates “generally to the field of a beacon system for use in a building” and discloses a method for beacon deployment to support LBS applications. '507 Patent at 2:49-53. More particularly, the asserted claims of the '507 Patent relate to a method for utilizing a series of beacons deployed in a localized urban area to activate LBS. *Id.* at Claim 57, FIG. 1. The claim requires deploying a series of beacons in an area, encoding LBS informative data “within an identification portion of a beacon signal,” broadcasting the beacon signals, scanning for signals using a mobile device, detecting those signals, receiving those signals,

decoding those signals to obtain the LBS data, and activating corresponding LBS. *Id.* According to the method disclosed in the Asserted Claims of the '507 Patent, the LBS data can be crowd sourced and sent to target recipient(s). *Id.* at Claims 58, 59, 63, 64. Further, the LBS can include a variety of applications like navigation, mapping, marketing, emergency services, payments, etc. *See, e.g., id.* at Abstract.

The '507 Patent aims to extend beacon deployment into “urban canyons” and support value-added services (navigation, emergencies, etc.) through beacon-based broadcasted information. *Id.* at 18:21-31, Abstract. All of the beacon-based deployment and relatedly enabled LBS applications disclosed in the '507 Patent were well-known in the prior art at the time of the '507 Patent's filing.

- (a) Combination of Hiltunen with any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V

A POSITA would have had reasons to combine Hiltunen with any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V. All of these references are directed to beacon-based wireless communication systems that address complementary challenges. Each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V focuses on location determination using beacons, while Hiltunen focuses on secure message delivery using beacon infrastructure. A POSITA would have recognized that the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V would benefit from employing Hiltunen's privacy architecture of encrypting or otherwise restricting accessibility to beacon signals. For example, in a scenario

where a museum has deployed a series of beacons in the museum, the museum may benefit from implementing access control by allowing only paying customers' devices to access the beacons deployed throughout the museum. Without Hiltunen's privacy architecture, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V would indiscriminately respond to any device, defeating the purpose of access control. Similarly, in a logistics setting, a company may deploy beacons in its warehouses but only want affiliated partners or employees to access the beacon identifiers and resulting location services. By applying Hiltunen's teachings, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V could enforce policies that restrict beacon access, ensuring that location determination is secure and limited to authorized parties

Additionally, from a technical standpoint, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V utilize short-range wireless beacon transmissions such as (e.g., Bluetooth, WLAN, or infrared), which is the same technology contemplated in Hiltunen. Because of this overlap, the beacon hardware, transmission protocols, and client-side devices (mobile phones, PDAs, laptops) described in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V and that of Hiltunen are technically compatible and can be implemented on the same platform without undue experimentation.

The combined system also predictably yields a secure, location-triggered messaging architecture. A POSITA would have recognized that the beacon architecture disclosed in each of

Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V could be integrated with Hiltunen's private message transmission such that the message can be communicated securely to intended recipients.

- (b) Combination of Vanluijt with any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V

A POSITA would have had reasons to combine Vanluijt with any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V . All these references address the same overarching problem of enabling meaningful location-aware services for mobile users—but from different and complementary perspectives. Each system relies on the deployment of short-range wireless beacons, where the beacon's limited coverage area can serve as a proxy for location. The beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V utilize short-range beacon transmission, just as Vanluijt does.

Additionally, the beacon architecture disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V is directed to the mechanics of beacon deployment and selection, with the goal of improving indoor positioning accuracy and robustness. Vanluijt complements this by focusing less on positioning accuracy and more on enhancing user experience through information delivery. Its autonomous beacons include local processors and storage, enabling them to broadcast menus, flight information, or other localized services directly to nearby devices, while optionally synchronizing with back-end servers via long-range wireless links such as GPRS or

UMTS. Vanluijt further emphasizes the commercial and deployment benefits of such an approach, noting that plug-and-play beacons can be quickly installed at points of interest without requiring extensive networking infrastructure. A POSITA would have recognized that the location determination aspects disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V could be complemented by Vanluijt's disclosure of enhancing user experience through information delivery.

Furthermore, a POSITA would have recognized that Vanluijt's location-based service (LBS) features would be improved by the beacon-based location determination techniques disclosed in each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V. For example, in an airport scenario described in Vanluijt of providing a user with flight status, a POSITA would have recognized that, after determining the location of a user using the techniques disclosed in Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V, the user could be provided the flight status information corresponding to the gate that the user is standing next to, for example, in the form of a URL that opens a webpage that indicates the boarding time or information of any delays or cancelations. *See, e.g.*, Vanluijt, ¶¶0037 (disclosing that a beacon may broadcast a number of "information key[s]" that include "a pointer or address of some form, for example a URL or telephone number," "each [key] typically relating to a different service"), 0014 (disclosing that a beacon can "exchang[e] data with the server over the long range communication link), 0033 (disclosing that the server can be connected to "a network 110, such as the Internet, a phone network or a cable network."). Alternatively, Vanluijt's teachings can further be employed to

collect statistical data about individuals standing next to a particular gate in the airport, and subsequently, the airport server could be “arranged to pre-fetch the frequently requested data from the server,” so such data becomes readily available to others. *See, e.g.,* Vanluijt, ¶0018 (explaining that “pre-fetching data and storing frequently requested, popular (even non-localized) content could offload the spectrum needs for the cellular operator.”).

This combination of Vanluijt and each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V would also have been technically straightforward and a POSITA would expect success in implementing it. All references disclose the use of standardized short-range wireless protocols such as Bluetooth and IEEE 802.11 for communication between beacons and mobile devices. Because they rely on the same communication stack and similar beacon hardware (e.g., short-range radios, processors, and storage), there is no incompatibility to overcome. A POSITA would have reasonably expected success in programming a beacon to perform the functions of Vanluijt and each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V because they would be software-driven features layered on the same underlying radio hardware.

- (c) Combination of Maletz with any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V

A POSITA would have had reasons to combine Vanluijt with any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V . All of these references are directed to solving problems in the same field of technology: location-based services using short-range beacons and mobile devices. Each reference addresses complementary aspects of that problem, and a POSITA

would have been motivated to combine their teachings to achieve a more complete and robust system.

Each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V disclose a beacon architecture that utilize short-range beacons to determine the location of a user. Maletz complements these teachings by disclosing a communication system providing location-dependent and situation-aware services. In particular, Maletz teaches information beacons that broadcast short-range signals (e.g., Bluetooth, WLAN), but Maletz emphasizes the delivery of services and content to mobile users based on beacon location. Maletz, ¶¶0004 (“The information beacon emits via a wireless communication link (e.g. Bluetooth, GSM, GPRS, UMTS or WLAN) information data providing information on the location of the beacon and services offered by the provider of the beacon.”; disclosing that a beacon could provide “the location of the store and its opening hours” of a pharmacy or provide “latest offers of the store,” navigation to a beacon.”), 0005, 0006 (disclosing that beacons can provide “additional services like E-commerce”). Importantly, Maletz extends the capabilities of beacons by teaching that beacons can be implemented not only as stationary infrastructure but also as mobile devices themselves (e.g., a taxi driver’s phone acting as a beacon). Maletz, ¶¶0014 (“The idea underlying the present invention is thus to use a mobile communication device as an information beacon. This solution offers a simple and cost-saving way to obtain an information beacon since mobile communication devices of the present generation already contain most of the elements and features which are necessary to act as an information beacon.”), 0017 (disclosing that a taxi driver can use his mobile communication device to “inform potential clients on the actual location of his taxi.”), 0023, 0024 (explaining how the “data emitted by the taxi” is received by users in proximity to the taxi). Furthermore, Maletz

describes that the beacons may be connected to external networks such as the Internet to obtain additional information or enable e-commerce and other advanced services. Maletz, ¶¶0006 (disclosing that a “beacon connects to another information network (e.g., to the Internet),” for example, “to implement additional services like E-commerce or the like”), 0026 (“As will be readily understood, a plurality of other institutions which offer public services might provide wireless information by using an information beacon of the present invention. Potential providers are e.g. hotels, restaurants, cinemas and the like.”), 0026 (“[T]he beacon could also be used to serve as an access point for accessing e.g. the Internet or another information network.”), 0028, 0034 (“Further, the communication system could be used for E-commerce services wherein the GSM link of the telephone 10 is used to contact a financial institution in order to authorise a financial transaction.”). A POSITA would recognize that after a mobile device determines its location using location determining features disclosed in any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V, it would be beneficial for that mobile device to be able to transmit its location to other nearby devices. For example, in a scenario where a taxi driver is driving in a parking lot where GPS signal is weak or unavailable, the taxi driver could utilize a mobile device to communicate with the beacons deployed in the parking lot to determine the mobile device’s location, then the taxi driver could apply Maletz’s teachings to his mobile device so that the mobile device acts as a beacon and transmits its location to potential customers nearby.

A POSITA would have been motivated to combine these teachings because doing so yields predictable benefits. Each of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V disclose a beacon architecture that utilize short-range beacons to determine the location of a user. Maletz

provides mechanisms for turning that location determination into actionable services and interactions, including dynamically updated data from the Internet and mobile-service-based beacons. Maletz, ¶¶0006 (disclosing that a “beacon connects to another information network (e.g., to the Internet),” for example, “to implement additional services like E-commerce or the like”), 0017 (disclosing that a taxi driver’s mobile device can act as a beacon and “inform potential clients on the actual location of his taxi.”), 0022–0024. Combining Maletz with any of the beacon architecture disclosed in Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V produces a system that not only determines a user’s fine-grained position with reliability but also automatically delivers relevant, up-to-date location-based services tailored to that position, as well as adding security and ensuring that beacon messages are received only by intended recipients.

The combination would also have been technically straightforward. All references rely on the same short-range wireless technologies (e.g., Bluetooth, WLAN, GSM/UMTS), and all references describe mobile devices equipped with processors, storage, and radios to handle beacon transmissions. A POSITA would have readily recognized that the same beacon hardware that transmits identifiers for location discrimination (such as in any of Masuoka, Place Lab, Quigley, Gum, Seraj, Active Campus, B-Mad, Cricket, and Mendelson I, Mendelson II, Mendelson III, Mendelson IV, Mendelson V) could also be configured to provide content and connect to external networks and configured to transmit to further nearby devices (Maletz).

(d) Additional Combinations

A POSITA would also have had reasons to combine additional references noted below for at least the reasons provided in Sections II.B.3.c)(2)(a), II.B.3.c)(2)(b), II.B.3.c)(2)(c). Additionally, a POSITA would have also been motivated to combine the following combinations because they all disclose systems that rely on compatible wireless transmissions such as Bluetooth,

Wi-Fi (802.11), GPS, and related beacon protocols to enable location determination and location-based services. A POSITA would have recognized that they are technically compatible and that combining their teachings would yield predictable improvements without undue experimentation. The disclosed devices all operate on standard radios and protocols, which a POSITA would expect to work together without modification. As such, integrating the teachings of one reference into the framework of another would have been straightforward and predictable. Because all of these systems rely on the same family of wireless transmissions and beacon architectures, their combination would not require undue experimentation, but rather represent a routine application of familiar engineering practices.

- Masuoka, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Place Lab, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Quigley, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Gum, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge,

Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V .

- Seraj, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Active Campus, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, B-Mad, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- B-Mad, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, Challenge, Cricket, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Cricket, in view of Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, RADAR, Masuoka, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.
- Mendelson I, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson II, Mendelson III, Mendelson IV, and/or Mendelson V.

- Mendelson II, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson III, Mendelson IV, and/or Mendelson V.
- Mendelson III, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson IV, and/or Mendelson V.
- Mendelson IV, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, and/or Mendelson V.
- Mendelson V, in view of Masuoka, Hiltunen, Vanluijt, Maletz, Zechlin, Carroll, Davies, Kenny, Brust, Phillips, Bluetooth 1.1, Bluetooth, 4.0, iBeacon, Active Campus, B-Mad, Challenge, Cricket, RADAR, Place Lab, Scanning4Life, Gupta, Pattabiraman, Mendelson I, Mendelson II, Mendelson III, and/or Mendelson IV.

(3) U.S. Patent No. 9,772,193

Like the '684 and '507 Patents, the '193 Patent relates “generally to the field of a beacon system for use in a building” and discloses a method for beacon deployment to support Bluetooth-enabled LBS applications. '193 Patent at 2:39-43. The '193 Patent focuses on employing those Bluetooth based LBS applications to “to direct a user to a parking space where the user parked the vehicle.” *Id.*, Abstract. The Asserted Claims of the '193 Patent relate to using “information provided by” a “Bluetooth transceiver integrated within a vehicle,” in order to “register an exact

parking space location” of a vehicle and “subsequently using the mobile device to provide navigation to the parking space location.” *Id.* at Claim 12 (74:20-33).

Like the '684 and '507 Patents, the '193 Patent aims to overcome shortcomings of GPS-based location technologies—particularly their inability to properly function indoors and in urban environments—by providing lower cost, beacon-based infrastructure for the specific location service of registering a vehicle’s exact parking location. *Id.* at 2-39-4:52; Claim 12. As discussed in (a)-(e) below, all of the beacon-based deployment and LBS technologies disclosed in the '193 Patent, as well as the employment of these technologies for registration of, and return navigation back to, a vehicle’s parking location, were well-known in the prior art at the time of the '193 Patent’s filing, regardless of whether it can properly claim the priority of provisional applications 60/670,097 (Apr. 12, 2005) or 60/678,947 (May 9, 2005), or the parent application 11/396843 (Apr. 3, 2006), now U.S. Patent No. 7,899,583.

(a) **Location based services (“LBS”) for automobiles
/ vehicles**

Using LBS for various purposes related to automotive navigation was both well-known and by the early 2000s, and well before the 2005 filing dates of U.S. Provisional Application Nos. 60/670,097 and 60/678,947, to which the '193 Patent claims priority. This included vehicle navigation while driving, but also included navigation to a parked vehicle. As just one example, Baese discloses that “parking position data of a parked vehicle is stored in the vehicle” with “[t]he vehicle position data which represent the current position of the parked vehicle are determined in accordance with one of the alternatives specified above.” Baese at [0012]. Baese further discloses that “the parking position data are transferred automatically from a vehicle-end transmitter device (for example a mobile radio mounted on the vehicle) directly to a predefined mobile radio terminal (for example the mobile radio terminal of the owner of the vehicle having a predefined telephone

number which is stored at the vehicle end).” *Id.* Ayed, Baker, Breed, Brust, Phillips, Sari, BMW Personal Navigator, DiWay, and Miller all have similar disclosures. *See, e.g.*, Ayed at 2:32-36 (disclosing “A method for facilitating returning to a parked vehicle location, comprising responsive to receiving a wireless activation signal, detecting the presence of a wireless transmitter, obtaining location data from said wireless transmitter; and storing said location data.”); Baker at [0010] (“[T]he present invention automatically recognizes when vehicles are being parked and automatically stores the location of parked vehicles without requiring the interaction of the user.”), [0019] (““The parked vehicle location system 140 is configured to provide a location of a parked vehicle. Typically, the parked vehicle location system 140 employs the positioning system 130 to provide the location.”); Sari at [0015] (“A waypoint is automatically downloaded into the locator device 10 when a car 14 is parked. This prevents an operator from having to remember to set a waypoint when leaving a parked car.”); BMW Personal Navigator at 162 (“Before leaving the car, the PDA receives the actual park spot coordinates, which are added to the travel itinerary and which may help to find back to the car later.”); DiWay (“Parking place finder. Using the Phonemarks feature, the visitor stores the spatial code of the place where he or she parked the car. The parking place finder will later help him or her in finding the way back to the car (Figure 4.6).”). Furthermore, Baese, Baker, Breed, Phillips, BMW Personal Navigator, DiWay, and Miller expressly disclose using Bluetooth in some form as part of a vehicle location system.

As the ’193 Patent itself recognizes, GPS was the commonly used LBS for vehicles. *See, e.g.*, ’193 Patent at 5:24-27 (“[M]ost of the existing prior arts are based either on a Global Positioning System (GPS) based system or an integrated, in-car navigation system employing the Global Positioning System (GPS).”). Indeed, it was well known to integrate GPS into a vehicle to

allow determination of the vehicle's location. *Id.* Moreover, it was also well understood that GPS did not work well (if at all) for indoor spaces, such as parking garages. *See, e.g., id.* at 3:51-56 ("The use of the Global Positioning System (GPS) is further limited in an indoor environment, such as most indoor stores and/or malls, as the Global Positioning System (GPS) cannot work effectively when the receiver is located in doors or a line of sight to the satellites is blocked by a roof or other object."); Baese at [0011] ("In screened regions (e.g., regions in which there is no mobile radio reception, GPS reception, etc.) it is possible to generate indoor position data . . . using permanently installed beacons, such as, for example, bluetooth transmitter/receiver devices."), Ayed at 2:15-18 ("This system requires the use of GPS. It works well for vehicles parked on the street or in outdoor parking lots, but does not function reliably in indoor parking lots."). Thus, it was also well known to use beacons so that a transceiver in the vehicle could determine the vehicle's location. *See, e.g.,* Place Lab, *Sohn* at 462 ("Radio beacon technologies such as 802.11, Bluetooth, GSM, and infrared are all being used for positioning.". This includes generic radio frequency transceivers as well as Bluetooth transceivers, which would communicate with Bluetooth transceivers. *See, e.g., id.*; Brust at 11:51-58 ("sensors that are already in the car for other purposes can be employed as well. This applies e.g. to the aforementioned ... radio-beacon receivers. These sensors are connected to the route registering unit RL and deliver their data about the route traveled by the vehicle to the registering unit RL via this connection.").

Furthermore, it was known to combine the determination of a vehicle's location with features for assisting the user in locating their vehicles. It was well known to provide navigation from a user's location (as determined via a handheld device or portable mobile device, for example) back to a vehicle's location that was stored, using step by step (turn by turn) directions. *See, e.g.,* Baese at [0012] ("The data at the service center may include data such as road maps,

town maps, building plans (of multistory parking garages etc.) so that the vehicle may be located within the context of a specific map. For example, the position of the vehicle may be displayed in a particular parking spot on a street, or a parking space within a multistory parking garage, and so forth. . . . This data may comprise one or more specific directional instructions such as, for example, ‘turn left at next cross roads,’ ‘first door on right,’ etc., which are displayed or audibly delivered at the mobile radio terminal 2.” [0012].”); Sari at [0021] (“The locator device 20 receives a GPS signal 25 from one or more GPS satellites 24 and calculates a current position. The locator device 20 then calculates a direction and distance back to the waypoint 19 and displays the direction using arrow 25 and displays the distance as numeric 25 characters 27.”). It was also well known to display a map on a handheld device that showed the location of a vehicle and the way back to a vehicle. *See, e.g., id.* These concepts were also applied to the specific context of saving the space in which a vehicle is parked and then providing navigation (with or without a map) back to a vehicle. *See, e.g., id.*; Phillips at [0072]-[0073] (“When so activated, the phone may first determine the user’s current location. The phone may then compare the user’s location to that of the vehicle. . . . The phone may then display a map which displays the user’s location and the vehicle location.”); Baker at [0037] (“The stored parking event may be presented to a user of the PWD through a user interface of the PWD. The parking event may be presented in text form or via a map”); Brust at 6:27-34 (“Location coordinates as position information are sufficient as well, if the mobile terminal unit MT itself comprises a position determination system, such as e.g. a small GPS receiver. At least outdoors, the mobile terminal unit MT can then compute and display distance and direction from the position of the driver to the parked car and in this way support the driver’s search for his car.”); Miller at 41 (“If you’re like a lot of us, you sometimes forget where you parked your car. With Bluetooth, this isn’t a big problem anymore; you can use your PDA to

search for your car by exchanging Bluetooth signals. Your PDA will locate your car and provide an on-screen map and walking directions.”).

Moreover, a POSITA was motivated to combine various technologies, e.g., LBS, indoor location, navigation, mobile mapping to provide a service that stores a vehicle’s location and provide navigation back to it. Indeed, the problem solved by such a combination is well known: for almost as long as cars—and certainly as long as parking garages—have existed, drivers and their passengers have sometimes forgotten where they parked their vehicle and struggled to find their way back to it.

(b) LBS via mobile devices and navigation using mobile devices

The integration of LBS wasn’t limited to vehicles. By the early 2000s, it was well known to have a handheld GPS receiver or mobile devices with integrated GPS. *See, e.g.*, Baker at [0010] (“the present invention advantageously employs existing positioning systems in such personal wireless devices as cellular telephones.”), [0017] (“The antenna 110, the user interface 120 and the positioning system 130 are conventional components or systems typically employed within a cellular telephone.”); DiWay at 56 (“LBS applications for the common mobile phone user include personal and car navigation, point-of-interest search, e-commerce, emergency services and entertainment. LBS are supported by context-aware systems relying on the dissemination of contextual information”). Indeed, the ’193 Patent notes that “Global Positioning System (GPS) equipped cellular telephones” were “mandatory.” ’193 Patent at 3:57-59. Furthermore, Bluetooth technology was well-known by the early 2000s, as shown by the ubiquitous references to Bluetooth in the prior art. *See, e.g.*, Place Lab (Sohn II at 462) (noting the “pervasive deployment of [location based computing] technologies ... on a wide variety of client platforms, including laptops, PDAs, and mobile phones”); Miller at 12 (“IDC predicts that 88.7% of all portable computers shipped in

2003 will incorporate integrated Bluetooth technology. On the mobile phone front, Cahners In-Stat Group predicts that 40% of all digital cellular phones shipped in 2003 will be Bluetooth enabled.”); Baese at [0003] (“The data transfer from the vehicle to a mobile radio terminal can be carried out, in particular, by mobile radio (for example GPRS, SMS, USSD etc.), bluetooth or via a cable interface at the mobile radio terminal.”). Moreover, as discussed above, it was well known to use Bluetooth—and RF generally—as a substitute for, or supplement to GPS technology, which was known to not be especially useful in determining indoor location. Furthermore, with LBS integrated, it was also known to include maps and navigation capability on a mobile device. *See, e.g., supra id.*; Phillips at [0072]-[0073] (“When so activated, the phone may first determine the user’s current location. The phone may then compare the user’s location to that of the vehicle. ... The phone may then display a map which displays the user’s location and the vehicle location.”).

A POSITA would have been motivated to combine LBS related features implemented on a mobile device with LBS in a vehicle. As stated above, the problem of locating a parked car is almost as old as cars themselves. Moreover, individuals generally carried mobile devices with them, including when they left their cars. Thus, a POSITA would have been motivated to use a mobile device to aid in navigating back to a vehicle.

A POSITA would have understood—and POSITAs did understand—that using a mobile device to navigate back to a vehicle required transmitting the vehicle’s position to the mobile device. *See, e.g.,* Baese at [0003] (“Further, where necessary, the position data may be transferred from the mobile radio terminal to a center in order to generate specific route instructions to the vehicle.”); Sari at [0019] (“The GPS reading at the vehicle shutoff or parked location is stored by the vehicle GPS system 16 in block 32. The vehicle GPS system 16 then automatically downloads this GPS data at location 19 via a wire or wireless signal 18 to the locator device 10 in block 34.

The locator device 10 saves the GPS data as a waypoint. The locator device 10 is then taken from the vehicle 14 and carried by the vehicle operator or passenger.”). Thus, a POSITA would have been motivated to use available technologies, including Bluetooth for transmitting a vehicle’s position to a mobile device. Moreover, a POSITA would have considered technologies such as Bluetooth, which could communicate locally between a vehicle and mobile devices, as an alternative to transmitting location via a central server, as local transmission would function even when the mobile device did not have a reliable connection to a cellular network.

As demonstrated in the claim charts submitted herewith, references that disclose LBS via mobile devices and navigation using mobile devices include Baese, Ayed, Sari, Brust, Breed, Baker, Phillips, DiWay, Miller, Place Lab, Alipes, MoteTrack, BMW Personal Navigator, Socket, HP iPAQ, Palm with GPS, Garmin iQue, and GPS 10.

(c) GPS-based LBS

As stated above, GPS-based LBS was widely used by the early 2000s and it was widely known to integrate GPS in both vehicles and mobile devices. Moreover, it was also known to combine GPS location with available radio-frequency technologies (including Bluetooth). This combination could be used to transmit a GPS-determined location to a mobile device. *See, e.g.*, Phillips at [0043] (“It is contemplated that any GPS-based location system known in the art may be used in the present disclosure”), [0070] (““A vehicle configured in accordance with the present disclosure may determine its current location, and send its current location to a terminal (e.g., cellular phone) configured according to the present invention, preferably via a Bluetooth signal.”); Baese at [0003] (“The data transfer from the vehicle to a mobile radio terminal can be carried out, in particular, by mobile radio (for example GPRS, SMS, USSD etc.), Bluetooth or via a cable interface at the mobile radio terminal.”), [0008] (“The location of the vehicle is to be provided to the vehicle owner via a mobile radio terminal 2. If satellite reception is possible, vehicle position

data can be generated at the vehicle by means of a satellite navigation system or global positioning system (GPS) 3.”). A POSITA would have been motivated to use GPS based location as part of assisting drivers to navigate back to their parked vehicles, because it was a widely deployed technology and would have allowed for ready determination of outdoor parking location, which could then be transmitted to a mobile device using a radio frequency technology.

As demonstrated in the claim charts submitted herewith, references that disclose GPS-based LBS include Baese, Ayed, Sari, Brust, Yoakum, Breed, Baker, Phillips, DiWay, Miller, Place Lab, Alipes, MoteTrack, BMW Personal Navigator, Socket, HP iPAQ, Palm with GPS, Garmin iQue, and GPS 10.

(d) **Data transmission and LBS via radio frequency, including Bluetooth**

As stated above, Bluetooth technology was widely known by the early 2000s. “Bluetooth was formally announced in May of 1998, and the Bluetooth SIG released version 1.0 of the Bluetooth specification in July of 1999.” *See* Miller at 12. Bluetooth technology was already being used in mobile devices and was expected to be even more widely deployed in mobile devices, given its low cost and low power consumption. *See, e.g.*, Miller at 8 (“The combination of small size and low cost should help to make Bluetooth technology ubiquitous in a variety of electronic devices—especially in those with portable applications.”). It was also known by the early 2000s that Bluetooth could be used to determine a location by having beacons communicate with a Bluetooth transceiver. *See, e.g.*, Baese at [0011] (“In screened regions (e.g., regions in which there is no mobile radio reception, GPS reception, etc.) it is possible to generate indoor position data, the position data of the vehicle within the Screened Structure, using permanently installed beacons, such as, for example, Bluetooth transmitter/receiver devices.”). It was also known to use Bluetooth in vehicles, both for communication and LBS. *See, e.g.*, Baese at [0003] (“The data transfer from

the vehicle to a mobile radio terminal can be carried out, in particular, by mobile radio (for example GPRS, SMS, USSD etc.), Bluetooth or via a cable interface at the mobile radio terminal.”); Phillips at [0070] (““A vehicle configured in accordance with the present disclosure may determine its current location, and send its current location to a terminal (e.g., cellular phone) configured according to the present invention, preferably via a Bluetooth signal.”); Miller at 26-27 (“The Car Profile Working Group is targeting applications for the Bluetooth wireless technology within the automobile environment. Potential usage models being investigated by this group include operating a mobile phone via an in-car device; exporting the interface of a portable device to an automobile; accessing the car via a remote device; determining the position of a car via a remote device; call handling between car-embedded and mobile phones; communication between the car and its environment; and automotive diagnostics and programming.”). It was further known that Bluetooth could solve for some of the limitations of GPS for indoor location. *See, e.g.*, Miller at 175 (“Nokia and Microsoft are working together in the Local Positioning (LP) Working Group to provide more granular positioning options than are currently available in satellite-based global positioning systems (GPSs). Using Bluetooth access points as place identifiers, the new usage models under discussion are meant to enable a user to accurately determine his or [sic] position indoors and in other built-up environments, typically invisible to satellite positioning systems.”); Baese at [0011] (“In screened regions (e.g., regions in which there is no mobile radio reception, GPS reception, etc.) it is possible to generate indoor position data, the position data of the vehicle within the Screened Structure, using permanently installed beacons, such as, for example, Bluetooth transmitter/receiver devices.”).

For all the reasons stated above, a POSITA would have been motivated to combine Bluetooth or other radio frequency capability with the other described technologies, *i.e.* GPS,

vehicle integration, mobile devices, mapping and navigation, to provide drivers a way to locate and navigate back to their parked vehicles.

As demonstrated in the claim charts submitted herewith, references that disclose data transmission and LBS via radio frequency, including Bluetooth include Baese, Ayed, Sari, Brust, Yoakum, Breed, Baker, Phillips, DiWay, Miller, Place Lab, Alipes, MoteTrack, BMW Personal Navigator, Socket, HP iPAQ, Palm with GPS, Garmin iQue, and GPS 10.

d) Incorporation by Reference

Defendants also incorporate by reference motivations to combine discussed in any current or forthcoming IPR, EPR, or reexamination proceedings concerning the Asserted Patents.

C. Claim Charts—P.R. 3-3(c)

Pursuant to P.R. 3-3(c), and subject to Defendants’ reservation of rights, claim charts providing a limitation-by-limitation analysis of where specifically, in each prior art item, each limitation of the Asserted Claims of the Asserted Patents are attached in Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24.

1. Claim Charts for U.S. Patent No. 9,674,684

Exhibit	Prior Art Reference
Exhibit A-01	U.S. Patent No. 7,587,207 (“Davies”)
Exhibit A-02	U.S. Patent No. 6,055,434 (“Seraj”)
Exhibit A-03	U.S. Patent No. 8,712,690 (“White”)
Exhibit A-04	U.S. Patent No. 9,137,771 (“Wrappe”)
Exhibit A-05	U.S. Patent Pub. No. 2005/0064877 (“Gum”)
Exhibit A-06	U.S. Patent Pub. No. 2004/0162059 (“Hiltunen”)
Exhibit A-07	U.S. Patent Pub. No. 2005/0136845 (“Masuoka”)

Exhibit A-08	U.S. Patent Pub. No. 2006/0287813 (“Quigley”)
Exhibit A-09	U.S. Patent Pub. No. 2002/0132614 (“Vanluijt”)
Exhibit A-10	European Patent Pub. No. 1480393 (“Maletz”)
Exhibit A-11	<i>Challenge: Ubiquitous Location-Aware Computing and the Place Lab Initiative</i> , Schilit et al. (2003) (“Challenge”)
Exhibit A-12	<i>The Cricket Location-Support System</i> , Priyantha et al. (2000) (“Cricket”)
Exhibit A-13	<i>Place Lab: Device Positioning Using Radio Beacons in the Wild</i> , LaMarca et al. (2004) (“Place Lab”)
Exhibit A-14	<i>RADAR: An In-Building RF-based User Location and Tracking System</i> , Bahl et al. (2000) (“RADAR”)
Exhibit A-15	<i>ActiveCampus – Experiments in Community-Oriented Ubiquitous Computing</i> , Griswold (2004) (“ActiveCampus”)
Exhibit A-16	<i>Bluetooth and WAP Push Based Location-Aware Mobile Advertising</i> , Aalto et al. (2004) (“B-MAD System”)
Exhibit A-17	Bluetooth Specification 1.1
Exhibit A-18	Bluetooth Specification 4.0
Exhibit A-19	iBeacon
Exhibit A-20	File history of U.S. Pat. No. 9,374,673 (“’673 Patent”), one of the alleged parents of the ’507 Patent, Attachment to Applicant’s October 17, 2013 Response to Office Action dated May 17, 2013 (“Scanning4Life”)
Exhibit A-21	NAV4
Exhibit A-22	IEEE 802.11 Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications (“Wi-Fi Standard”)
Exhibit A-23	Redline of U.S. Patent No. 9,020,687 (“Mendelson I”)
Exhibit A-24	Redline of U.S. Patent No. 9,204,251 (“Mendelson II”)
Exhibit A-25	Redline of U.S. Patent No. 9,204,257 (“Mendelson III”)
Exhibit A-26	Redline of U.S. Patent No. 8,941,485 (“Mendelson IV”)
Exhibit A-27	Redline of U.S. Patent No. 8,866,673 (“Mendelson V”)

2. Claim Charts for U.S. Patent No. 9,961,507

Exhibit	Prior Art Reference
Exhibit B-01	U.S. Patent No. 6,650,999 (“Brust”)
Exhibit B-02	U.S. Patent No. 7,596,438 (“Chen”)
Exhibit B-03	Davies
Exhibit B-04	Seraj
Exhibit B-05	White
Exhibit B-06	WO Patent Pub. No. 2003/024789 (“Kenny”)
Exhibit B-07	U.S. Patent Pub. No. 2003/0052823 (“Carroll”)
Exhibit B-08	U.S. Patent Pub. No. 2005/0195106 (“Davis”)
Exhibit B-09	Gum
Exhibit B-10	Hiltunen
Exhibit B-11	Masuoka
Exhibit B-12	U.S. Patent Pub. No. 2003/0055560 (“Phillips”)
Exhibit B-13	Quigley
Exhibit B-14	Vanluijt
Exhibit B-15	Maletz
Exhibit B-16	European Patent Pub. No. 1287513 (“Zechlin”)
Exhibit B-17	Challenge
Exhibit B-18	Cricket
Exhibit B-19	Place Lab
Exhibit B-20	RADAR
Exhibit B-21	ActiveCampus

Exhibit B-22	B-MAD System
Exhibit B-23	Bluetooth Specification 1.1
Exhibit B-24	Bluetooth Specification 4.0
Exhibit B-25	iBeacon
Exhibit B-26	U.S. Patent Pub. No. 2012/0028649 (“Gupta”)
Exhibit B-27	U.S. Patent No. 9,980,246 (“Pattabiraman”)
Exhibit B-28	Scanning4Life
Exhibit B-29	NAV4
Exhibit B-30	WiFi Standard
Exhibit B-31	Redline of Mendelson I
Exhibit B-32	Redline of Mendelson II
Exhibit B-33	Redline of Mendelson III
Exhibit B-34	Redline of Mendelson IV
Exhibit B-35	Redline of Mendelson V

3. Charts for U.S. Patent No. 9,772,193

Exhibit	Prior Art Reference
Exhibit C-01	Baese
Exhibit C-02	Ayed ’125
Exhibit C-03	Sari
Exhibit C-04	Brust
Exhibit C-05	Yoakum
Exhibit C-06	Breed
Exhibit C-07	Phillips

Exhibit C-08	Baker
Exhibit C-09	DiWay
Exhibit C-10	Miller
Exhibit C-11	The Place Lab
Exhibit C-12	Alipes
Exhibit C-13	MoteTrack
Exhibit C-14	BMW Personal Navigator
Exhibit C-15	Socket
Exhibit C-16	HP iPAQ
Exhibit C-17	Palm with GPS
Exhibit C-18	Garmin iQue M5
Exhibit C-19	Garmin GPS 10
Exhibit C-20	Redline of Mendelson V
Exhibit C-21	Redline of Mendelson I
Exhibit C-22	Redline of Mendelson III
Exhibit C-23	Redline of Mendelson IV
Exhibit C-24	Redline of Mendelson V

D. Invalidity Under 35 U.S.C. § 112—P.R. 3-3(d)

Pursuant to P.R. 3-3(d), and subject to Defendants’ reservation of rights, Defendants identify below the grounds upon which Defendants currently contend the Asserted Claims are invalid for lack of written description and/or enablement under 35 U.S.C. § 112, ¶ 1, and/or for failing to comply with the definiteness requirements of 35 U.S.C. § 112, ¶ 2. The disclosures below do not attempt to identify all recitations of a given term or phrase in each claim. Where Defendants have identified an instance of a term or limitation in a particular claim that renders the claim invalid

under Section 112, Defendants contend that every instance of the challenged term or limitation, or similar term or limitation, in the claim renders the claim invalid for the same reasons.

The following contentions are subject to revision and amendment under Federal Rule of Civil Procedure 26(e) and the Orders of record in this matter where appropriate in light of further investigation and discovery regarding the defenses below, the Court's construction of the claims at issue, or the review and analysis of expert witnesses.

1. Lack of Enablement and Written Description

One or more Asserted Claims of the patents-in-suit are invalid under § 112, ¶ 1 for failing to particularly point out and distinctly claim the subject matter which the patentee regards as its alleged invention such that one skilled in the relevant art would be reasonably apprised of the bounds of the asserted claims when read in light of the specification. Section 112, paragraph 1 requires that the specification contain a written description of the invention. “[T]he hallmark of written description is disclosure.” *Boston Scientific Corp. v. Johnson & Johnson*, 647 F. 3d 1353, 1361-62 (Fed. Cir. 2011) (citation omitted). The test for whether a specification adequately describes an invention is “whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date [T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art [It] is a question of fact.” *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F. 3d 1336, 1351 (Fed. Cir. 2010) (*en banc*); *Boston Scientific*, 647 F. 3d at 1362.

Section 112, paragraph 1 also requires that the patent specification enable “those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’” *Genentech, Inc. v. Novo Nordisk A/S*, 108 F. 3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F. 2d 1557, 1561 (Fed. Cir. 1993)). “[T]he scope of the claims must be

less than or equal to the scope of the enablement.” *Nat’l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F. 3d 1190, 1196 (Fed. Cir. 1999).

Subject to Defendants’ reservation of rights, Defendants identify the following written description and enablement grounds with respect to the following asserted claims. The following does not purport to list every claim limitation to the foregoing disclosed grounds. Where a particular claim term or limitation is identified, Defendants contend that the identified term or limitation, as well as the surrounding claim language in context as recited in the applicable claim, suffer from the identified Section 112 defect. Furthermore, where a particular claim term or limitation is identified with respect to one or more particular claims, Defendants contend that each other Asserted Claim that recites the same claim term or limitation, or similar claim term or limitation, is subject to the same Section 112 defect. Defendants also reserve the right to assert additional Section 112 defenses as discovery progresses.

The Asserted Claims fail to meet the requirements of 35 U.S.C. § 112, ¶ 1 because the specifications of the Asserted Patents do not contain a written description of the alleged invention and do not enable a person skilled in the art to make and use the alleged invention. In particular, at least the following limitations of the Asserted Claims are not enabled and/or lack written description support:

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- “the beacon adapted to transmit a beacon signal using at least one of a unidirectional Bluetooth protocol signal and a unidirectional Wi-Fi protocol signal” Claim 52[a].
- “encoding desired beacon information into an identification segment of a beacon signal, wherein the encoded beacon information presents information to a receiving mobile device using the unidirectional transmission” Claim 52[b].
- “broadcasting each respective beacon signal from each at least one beacon” Claim 52[c].

- “scanning to detect any beacon signal, wherein the scanning is accomplished using the mobile device containing a receiver circuit that is compatible with the beacon signal, wherein the detected beacon signal would be a beacon signal transmitted from any of the at least one beacon located within signal range of the mobile” Claim 52[d].
- “receiving any beacon signal, wherein the receiving is accomplished using the mobile device containing the receiver circuit compatible with the beacon signal, wherein the received beacon signal would be the beacon signal transmitted from any of the at least one beacon located within signal range of the mobile device” Claim 52[e].
- “decoding the beacon information from the received beacon signal” Claim 52[f].
- “acting upon the decoded beacon information in accordance with at least one of: a) conveying the decoded beacon information to a user, and b) initiating at least one Location Based Service (LBS) associated with the information obtained from the decoded beacon information.” Claim 52[g].
- “The method as recited in claim 52, wherein the step of deploying the at least one beacon deploys the beacon in at least one of: outdoors, indoors, a residence, a building, a hi-rise building, a tenant apartment, a real estate property, a room, a hospital, a school, a classroom within the school, a university, a classroom within the university, a hotel, a hospitality facility, a municipal facility, an office, part of an urban living environment, a cruise ship, a transportation facility, a vehicle, a road traveling vehicle, a bus, a bus station, a train, a subway station, an arena, a museum, a light, a light fixture, and a light fixture within a structure.” Claim 53.

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- “deploying a series of beacons about a localized geographic area within an urban environment” Claim 1[a].
- “encoding Location Based Service (LBS) informative data within an identification portion of a beacon signal, wherein said informative data is associated with at least one Location Based Service (LBS)” Claim 1[b].
- “broadcasting said beacon signal from said respective beacon of said series of beacons” Claim 1[c].
- “scanning for any of said beacon signals using a mobile device” Claim 1[d].
- “detecting at least one of said broadcast beacon signals” Claim 1[e].
- “receiving at least one of said beacon signal by said mobile device, wherein said beacon signal is broadcast from a beacon of said series of beacons located proximate said mobile device” Claim 1[f].

- “decoding said received beacon signal to obtain said LBS informative data” Claim 1[g].
- “activating said Location Based Service (LBS) based upon receipt of said LBS informative data received from said respective beacon” Claim 1[h].
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, further comprising a step of forwarding said Location Based Service (LBS) informative data to a target recipient.” Claim 58.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 58, wherein said target recipient is at least one of a mobile device of a different user, a third party, and another electronic device.” Claim 59.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, further comprising a step of initiating said at least one Location Based Service (LBS), wherein said at least one LBS utilizes automatic crowd sourcing.” Claim 63.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 63, wherein said automatic crowd sourcing collects said data from any of said deployed series of beacons about said localized geographic area.” Claim 64.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, wherein said step of scanning for any of said beacon signals using a mobile device employs a scanning device is at least one of: a terrestrial vehicle, a mobile device carried by a person, an airborne vehicle, a helicopter, and an unmanned drone.” Claim 77.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, wherein said mobile device further provides a functionality of an RF beacon.” Claim 78.

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- “[R]egistering an exact parking space location of the vehicle on the mobile device using information provided by the Bluetooth transceiver” ’193 Patent, Claim 12 (74:28-30).
- Claim 12 lacks written description to the extent that the limitation “registering an exact parking space location of the vehicle on the mobile device using information provided by the Bluetooth transceiver” is read to encompass use of a GPS-determined location. As stated above, the ’193 Patent aims to overcome shortcomings of GPS-based location technologies—particularly their inability to properly function indoors and in urban environments—by providing lower cost, beacon-based infrastructure for the specific location service of registering a

vehicle's exact parking location. '193 Patent at 2:39-4:52. In fact, the specification goes so far as to describe an invention, where beacon-based infrastructure, and Bluetooth in particular, is used *instead* of GPS. In particular, the specification explains that "[e]xisting navigation systems, such as the new mandatory Global Positioning System (GPS) equipped cellular telephones, are based on the Global Positioning System (GPS)," which it describes as having many limitations. *Id.* at 3:23-60. Those limitations, as described by the inventor, include delays in "receiving the data and achieving a position fix," poor performance based on "unfriendly signal receiving conditions," and "limited accuracy" in close quarters applications. *Id.* at 3:23-56. Significantly, the specification describes "*the present invention*" as using "RF tags or beacons in conjunction with the respective software" that "replace the function of the satellites in a Global Positioning System (GPS) based system." *Id.* at 7:61-8:4. Thus, a POSITA reviewing the '193 patent specification would not have understood the inventor to possess an invention that encompasses the use of a GPS-determined location to register an exact parking space of a vehicle, and thus Claim 12 would lack written description to the extent it is read to encompass use of GPS-determined location.

- Claims 15, 16, 17, and 18 all lack written description: these claim expressly claim use of "employing a Global Positioning System (GPS) to register" a location. For all the reasons stated above as to why Claim 12 would lack written description if read to encompass a GPS-determined location, Claims 15, 16, 17, and 18 all lack written description as written.
- Claims 12-18 would not be enabled to the extent that (i) "registering an exact parking space location of the vehicle on the mobile device using information provided by the Bluetooth transceiver" is read to include registering an exact parking space location using a GPS- or non-Bluetooth-location that is transmitted to the mobile device via Bluetooth; and (ii) Gamba contends that transmitting a GPS-determined location over Bluetooth to a mobile device would have been non-obvious as of the priority date of the '193 Patent. The '193 Patent specification does not disclose, much less describe how to perform, the transmitting of a GPS-determined location to a mobile device over Bluetooth. Thus, the only way the claim, if read such that a GPS-determined location is "information provided by a Bluetooth transceiver," would be enabled is if such transmission, and its use for registering an exact parking space location, were known and obvious to a person of skill in the art. Thus, if Gamba asserts that such transmission of a GPS-determined location and its use in registering an exact parking space location is non-obvious, then the '193 Patent also would not be enabled.

2. Indefiniteness

As detailed below, the Asserted Claims are indefinite under 35 U.S.C. § 112, ¶ 2. Claims are indefinite under 35 U.S.C. § 112, ¶ 2 when they "fail to inform, with reasonable certainty, those

skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

Defendants note that the Court’s First Amended Docket Control Order contemplates that all indefiniteness issues be brought to the Court’s attention through the *Markman* briefing process (see Dkt. No. 21 at 5), which has not yet begun. Defendants’ detailed arguments as to indefiniteness will be presented at that time, through the *Markman* meet and confer and briefing process.

Subject to Defendants’ reservation of rights, and based on Defendants’ present understanding of Gamba’s Infringement Contentions, at least one or more of these claim terms/phrases/limitations are indefinite because they, read in light of the specifications and the prosecution histories, fail to inform with reasonable certainty those skilled in the art about the scope of the invention, and are therefore invalid for indefiniteness under 35 U.S.C. § 112 ¶ 2. See *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2012). Although the question of whether a given claim term is indefinite may turn on claim construction positions (including claim construction positions advocated by Gamba), Defendants allege that at least the following claims of the Asserted Patents are invalid because they include limitations and/or claim terms that fail to satisfy the definiteness requirement of 35 U.S.C. § 112 ¶ 2:

’684 Patent

- “the beacon adapted to transmit a beacon signal using at least one of a unidirectional Bluetooth protocol signal and a unidirectional Wi-Fi protocol signal” Claim 52[a].
- “encoding desired beacon information into an identification segment of a beacon signal, wherein the encoded beacon information presents information to a receiving mobile device using the unidirectional transmission” Claim 52[b].
- “broadcasting each respective beacon signal from each at least one beacon” Claim 52[c].
- “scanning to detect any beacon signal, wherein the scanning is accomplished using the mobile device containing a receiver circuit that is compatible with the beacon signal, wherein the detected beacon signal would be a beacon signal transmitted

from any of the at least one beacon located within signal range of the mobile” Claim 52[d].

- “receiving any beacon signal, wherein the receiving is accomplished using the mobile device containing the receiver circuit compatible with the beacon signal, wherein the received beacon signal would be the beacon signal transmitted from any of the at least one beacon located within signal range of the mobile device” Claim 52[e].
- “decoding the beacon information from the received beacon signal” Claim 52[f].
- “acting upon the decoded beacon information in accordance with at least one of: a) conveying the decoded beacon information to a user, and b) initiating at least one Location Based Service (LBS) associated with the information obtained from the decoded beacon information.” Claim 52[g].
- “The method as recited in claim 52, wherein the step of deploying the at least one beacon deploys the beacon in at least one of: outdoors, indoors, a residence, a building, a hi-rise building, a tenant apartment, a real estate property, a room, a hospital, a school, a classroom within the school, a university, a classroom within the university, a hotel, a hospitality facility, a municipal facility, an office, part of an urban living environment, a cruise ship, a transportation facility, a vehicle, a road traveling vehicle, a bus, a bus station, a train, a subway station, an arena, a museum, a light, a light fixture, and a light fixture within a structure.” Claim 53.

’507 Patent

- “deploying a series of beacons about a localized geographic area within an urban environment” Claim 1[a].
- “encoding Location Based Service (LBS) informative data within an identification portion of a beacon signal, wherein said informative data is associated with at least one Location Based Service (LBS)” Claim 1[b].
- “broadcasting said beacon signal from said respective beacon of said series of beacons” Claim 1[c].
- “scanning for any of said beacon signals using a mobile device” Claim 1[d].
- “detecting at least one of said broadcast beacon signals” Claim 1[e].
- “receiving at least one of said beacon signal by said mobile device, wherein said beacon signal is broadcast from a beacon of said series of beacons located proximate said mobile device” Claim 1[f].
- “decoding said received beacon signal to obtain said LBS informative data” Claim 1[g].

- “activating said Location Based Service (LBS) based upon receipt of said LBS informative data received from said respective beacon” Claim 1[h].
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, further comprising a step of forwarding said Location Based Service (LBS) informative data to a target recipient.” Claim 58.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 58, wherein said target recipient is at least one of a mobile device of a different user, a third party, and another electronic device.” Claim 59.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, further comprising a step of initiating said at least one Location Based Service (LBS), wherein said at least one LBS utilizes automatic crowd sourcing.” Claim 63.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 63, wherein said automatic crowd sourcing collects said data from any of said deployed series of beacons about said localized geographic area.” Claim 64.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, wherein said step of scanning for any of said beacon signals using a mobile device employs a scanning device is at least one of: a terrestrial vehicle, a mobile device carried by a person, an airborne vehicle, a helicopter, and an unmanned drone.” Claim 77.
- “The method of utilizing a series of deployed beacons for conveying information as recited in claim 57, wherein said mobile device further provides a functionality of an RF beacon.” Claim 78.

’193 Patent

- “the parking space location where the vehicle is parked.” ’193 Patent, Claim 12 (74:32-33).
- The phrase “the parking space location where the vehicle is parked” in element [c] of claim 12 is indefinite to the extent that Gamba interprets it to mean anything other than “the exact parking space location” claim in element [b] of claim 12. In general, use of “the” in a context such as this one, where a phrase is used earlier in a claim, indicates that the earlier use is an antecedent basis for the later use. *See Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1356 (Fed. Cir. 2003) (“The words ‘the use’ require antecedent basis; thus, ‘the use’ refers to a specific ‘use’ rather than a previously undefined ‘use.’”). Thus, a POSITA reading claim 12 in view of applicable claim construction principles would understand “the parking space location where the vehicle is parked” to refer to the previously registered “exact parking space location vehicle.” To the extent Gamba were to contend that

the phrase “the parking space location . . . parked” refers to something other than the “exact parking space location of the vehicle,” it would be indefinite, because (i) the phrase would lack an antecedent basis; and (ii) a POSITA would have no way of determining how—or to what degree—“parking space” location could differ from “exact parking space location.”

E. Subject Matter Eligibility Contentions

The Asserted Claims are directed to abstract ideas and lack an inventive concept, and they are therefore ineligible for patent protection under the subject matter requirements of Section 101 of the Patent Act. In accordance with the Standing Order Regarding Subject Matter Eligibility Contentions issued by this Court on July 25, 2019, Samsung submits separate subject matter eligibility contentions concurrently herewith.

As described below, in Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24, and in Samsung’s separate subject matter eligibility contentions and Exhibits D-01 through D-03, which are hereby incorporated by reference as if fully set forth herein, Defendants contend that the Asserted Claims of the Asserted Patents are drawn to subject matter that is not patentable under 35 U.S.C. § 101. Pursuant to section (a)(1) of the Order Regarding Eligibility, Exhibits D-01 through D-03 contain charts for the ’507, ’684, and ’193 Patents, respectively, identifying each exception to eligibility to which each Challenged Claim of the Asserted Patents is directed and the factual and legal basis therefor. Pursuant to section (a)(2)(A) of the Order Regarding Eligibility the chart of Exhibits D-01 through D-03, read in conjunction with the discussion herein and in Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24, and together with the material described, referenced, or cited in the charts, further provide a description of the industry, at the relevant time, in which the Challenged Claims of the Asserted Patents are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor. Further, pursuant to sections (a)(2)(B) and (a)(3) of the Order Regarding Eligibility the charts of Exhibits D-01 through D-03, read in conjunction with the discussion herein, and together with the material

described, referenced, or cited in the charts, further provides: (i) a description of how each element of each Challenged Claim, both individually and in combination with the other elements of that claim, was well understood, routine, and/or conventional in the relevant industry at the relevant time and (ii) an identification of the factual or legal basis for how the Challenged Claims are otherwise ineligible for patent protection.

Additionally, pursuant to section (b) of the Order Regarding Eligibility, Defendants are concurrently producing or making available for inspection and copying the materials on which Defendants presently seek to rely for subject-matter eligibility purposes, including the prior art references and other materials cited herein. For the avoidance of doubt, Defendants may rely on the materials identified herein. Without concession that expert testimony is necessary to resolve the subject matter eligibility of the Asserted Claims, Defendants reserve the right to further rely on expert testimony to be disclosed in accordance with the Docket Control Order. Defendants' search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems and devices is ongoing. Accordingly, Defendants reserve the right to supplement their production as Defendants obtain additional prior art references, documentation, and/or corroborating evidence concerning subject matter eligibility during the course of discovery.

Defendants reserve the right to supplement their document production pursuant to section (b) of the Order Regarding Eligibility as authorized by the Patent Local Rules, the Order Regarding Eligibility, or any other order of the Court.

F. Other Grounds of Invalidity

Defendants reserve the right to assert that the Asserted Claims are invalid under 35 U.S.C. §102(a), (b), (f) and/or (g) in the event Defendants obtain evidence (i) concerning prior art publications and systems through on-going discovery, including that which is subject to any third-party subpoenas; (ii) concerning any on-sale or public use bars, or any products or devices offered

for sale or sold that render one or more of the Asserted Claims obvious; or (iii) that the named inventors of the patents-in-suit, did not invent (either alone or in conjunction with other parties) or first conceive of the subject matter claimed in the patents-in-suit. Should Defendants obtain such evidence of the latter, they will provide the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived, and/or the circumstances surrounding the conception of the invention before the patent application.

Defendants reserve the right to supplement these disclosures based on further investigation and discovery.

III. DOCUMENT PRODUCTION ACCOMPANYING INVALIDITY CONTENTIONS—P.R. 3-4

Documents required to be produced under the First Amended Docket Control Order (Dkt. No. 21) and Patent Local Rule 3-4 are being produced to Gamba under a separate letter or will be made available for inspection. By way of example, Samsung has separately produced documents (SAMS.GAMBA.000001 - SAMS.GAMBA.019316) and produces concurrently with service of these Invalidity Contentions prior art references and other technical materials at least at (SAMS.GAMBA.019317 - SAMS.GAMBA.025276; SAMS.GAMBA.025277 - SAMS.GAMBA.025416; SAMS.GAMBA.025417 - 25441). Further, Samsung has begun collecting relevant source which will be made available for inspection pursuant to the terms of the Protective Order. Defendants reserve the right to produce and rely on additional documents relating to their products in view of, for example, additional information revealed during discovery regarding the content of Gamba's allegations and/or amendments to Gamba's Infringement Contentions.

IV. OTHER PRIOR ART

In addition to the prior art references that Defendants have specifically discussed in these Invalidity Contentions, Defendants identify each reference produced and cited in the accompanying document production of the same date. All of these references are relevant prior art, and Defendants reserve the right to rely on them based on its continuing research and analysis of the Asserted Claims, accused instrumentalities, and the prior art.

Further, Defendants contend that one or more claims of the patents-in-suit may be invalid due to derivation under 35 U.S.C. § 102(f). It is plain from the specifications and the prosecution histories that the named inventors “stood on the shoulders of others” at best and likely had access to numerous highly pertinent prior art references in connection with their work and related documentation and communications.

Defendants further reserve the right to supplement these Invalidity Contentions once discovery into the original assignees, named inventors, and other third parties can take place, including as to the full scope of the named inventors.

In addition, until all prior art references available to the named inventors are identified or produced and they are deposed, it is impossible to know all aspects of what the named inventors learned from prior art sources (or from collaborations with others) and what they independently contributed to the claimed subject matter. Defendants will supplement these Invalidity Contentions if and when more information becomes available.

V. PRIOR ART INDEX

A. Patents & Published Patent Applications

Patent or Patent Publication Number	Prior Art Provision	Country of Origin	Filing Date	Issuance or Publication Date
U.S. Patent No. 6,650,999 (“Brust”)	35 U.S.C. §§ 102(a), (b), and (e)	US	May 25, 1999	Nov. 18, 2003

Patent or Patent Publication Number	Prior Art Provision	Country of Origin	Filing Date	Issuance or Publication Date
U.S. Patent No. 7,596,438 (“Chen”)	35 U.S.C. § 102 (a)	US	Jan. 23, 2006	Sep. 29, 2009
U.S. Patent No. 7,587,207 (“Davies”)	35 U.S.C. § 102 (a)	US	Jun. 7, 2001	Sep. 8, 2009
U.S. Patent No. 6,055,434 (“Seraj”)	35 U.S.C. §§ 102 (a), (b), and (e)	US	Feb. 11, 1997	Apr. 25, 2000
U.S. Patent No. 8,712,690 (“White”)	35 U.S.C. § 102 (a)	US	Jan. 11, 2013	Apr. 29, 2014
U.S. Patent No. 9,137,771 (“Wrappe”)	35 U.S.C. § 102 (a)	US	Apr. 2, 2004	Sep. 15, 2015
U.S. Patent No. 9,980,246 (“Pattabiraman”)	35 U.S.C. § 102 (e)	US	Mar. 17, 2016	May 22, 2018
U.S. Patent Pub. No. 2003/0052823 (“Carroll”)	35 U.S.C. § 102 (e)	US	Sep. 20, 2001	Mar. 20, 2003
U.S. Patent Pub. No. 2005/0195106 (“Davis”)	35 U.S.C. § 102 (e)	US	Mar. 3, 2004	Sep. 8, 2005
U.S. Patent Pub. No. 2005/0064877 (“Gum”)	35 U.S.C. § 102 (e)	US	Sep. 19, 2003	Mar. 24, 2005
U.S. Patent Pub. No. 2004/0162059 (“Hiltunen”)	35 U.S.C. § 102 (e)	US	Feb. 20, 2004	Aug. 19, 2004
U.S. Patent Pub. No. 2005/0136845 (“Masuoka”)	35 U.S.C. § 102 (e)	US	Aug. 31, 2004	Jun. 23, 2005
U.S. Patent Pub. No. 2003/0055560 (“Phillips”)	35 U.S.C. §§ 102 (b) and (e)	US	Sep. 20, 2001	Mar. 20, 2003
U.S. Patent Pub. No. 2006/0287813	35 U.S.C. § 102 (e)	US	May 23, 2006	Dec. 21, 2006

Patent or Patent Publication Number	Prior Art Provision	Country of Origin	Filing Date	Issuance or Publication Date
("Quigley")				
U.S. Patent Pub. No. 2002/0132614 ("Vanluijt")	35 U.S.C. §§ 102 (b) and (e)	US	Mar. 14, 2002	Sep. 19, 2002
U.S. Patent Pub. No. 2012/0028649 ("Gupta")	35 U.S.C. §§ 102 (b) and (e)	US	July 26, 2011	Feb. 2, 2012
WO Patent Pub. No. 2003/024789 ("Kenny")	35 U.S.C. §§ 102 (a) and (b)	WO	Sep. 17, 2001	Mar. 27, 2003
European Patent Pub. No. 1480393 ("Maletz")	35 U.S.C. § 102 (a)	EP	Mar. 21, 2003	Apr. 26, 2017
European Patent Pub. No. 1287513 ("Zechlin")	35 U.S.C. § 102 (a)	EP	May 10, 2001	Sep. 29, 2004
U.S. Patent Application No. 2002/0082025 ("Baese")	Pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a)	US	September 26, 2001	June 27, 2002
U.S. Patent No. 6,405,125 ("Ayed '125")	Pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a)	US	September 26, 2000	June 11, 2002
U.S. Patent App. No. 2003/0020638 ("Sari")	Pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a)	US	July 17, 2001	January 23, 2003
U.S. Patent No. 6,405,125 ("Brust")	Pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a)	US	May 25, 1999	November 18, 2003
U.S. Patent App. No. 2003/0112154	Pre-AIA 35 U.S.C. §	US	December 18,	June 19, 2003

Patent or Patent Publication Number	Prior Art Provision	Country of Origin	Filing Date	Issuance or Publication Date
("Yoakum")	102(b) or AIA 35 U.S.C. § 102(a)		2001	
U.S. Patent App. No. 2005/0137786 ("Breed")	Pre-AIA 35 U.S.C. § 102(b) and AIA 35 U.S.C. § 102(a); or at least pre-AIA 35 U.S.C. § 102(e)	US	January 3, 2005	June 23, 2005
U.S. Patent App. No. 2003/0055560 ("Phillips")	Pre-AIA 35 U.S.C. § 102(b) or AIA 35 U.S.C. § 102(a)	US	September 20, 2001	March 20, 2003
U.S. Patent App. No. 2006/0111835 ("Baker")	Pre-AIA 35 U.S.C. § 102(b) and AIA 35 U.S.C. § 102(a); or at least pre-AIA 35 U.S.C. § 102(e)	US	November 23, 2004	May 25, 2006
U.S. Patent No. 9,020,687 ("Mendelson I")	35 U.S.C. § 102 (a)	US	January 14, 2011	April 28, 2015
U.S. Patent No. 9,204,251 ("Mendelson II")	35 U.S.C. § 102 (a)	US	May 22, 2014	December 1, 2015
U.S. Patent No. 9,204,257 ("Mendelson III")	35 U.S.C. § 102 (a)	US	May 22, 2014	December 1, 2015
U.S. Patent No. 8,941,485 ("Mendelson IV")	35 U.S.C. § 102 (a)	US	March 7, 2011	January 27, 2015

Patent or Patent Publication Number	Prior Art Provision	Country of Origin	Filing Date	Issuance or Publication Date
U.S. Patent No. 8,866,673 ("Mendelson V")	35 U.S.C. § 102 (a)	US	October 1, 2009	October 21, 2014

B. Publications

Title	Prior Art Provision	Author and Publisher	Date of Publication
<i>Challenge: Ubiquitous Location-Aware Computing and the Place Lab Initiative</i> ("Challenge")	35 U.S.C. §§ 102(a) and (b)	Bill Schilit; ACM	Sep. 2003
<i>The Cricket Location-Support System</i> ("Cricket")	35 U.S.C. §§ 102(a) and (b)	Nissanka B. Priyantha; ACM	Aug. 2000
<i>Place Lab: Device Positioning Using Radio Beacons in the Wild</i> ("Place Lab")	35 U.S.C. § 102(a)	Anthony LaMarca; Springer, Berlin, Heidelberg	Oct. 2004
<i>Place Lab — An Open Architecture for Location-Based Computing</i> ("Sohn I")	35 U.S.C. § 102(a)	Timothy Sohn; FSE	2005
<i>Experiences with Place Lab: An Open Source Toolkit for Location-Aware Computing</i> ("Sohn II")	35 U.S.C. § 102(a)	Timothy Sohn; ACM	May 2006
<i>RADAR: An In-Building RF-based User Location and Tracking System</i> ("RADAR")	35 U.S.C. §§ 102(a) and (b)	Paramvir Bahl; IEEE	Mar. 2000
<i>ActiveCampus — Experiments in Community-Oriented Ubiquitous Computing</i>	35 U.S.C. § 102(a)	William G. Griswold; IEEE	Oct. 2004

("ActiveCampus")			
<i>Bluetooth and WAP Push Based Location-Aware Mobile Advertising ("B-MAD System")</i>	35 U.S.C. § 102(a)	Lauri Aalto; ACM	June 2004
<i>Location-Based Services for WAP Phone Users in a Shopping Centre ("DiWay")</i>	35 U.S.C. § 102(a)	John Stillwell; Wiley	2004
<i>Discovering Bluetooth ("Miller")</i>	35 U.S.C. § 102(a)	Michael Miller; SYBEX	2001
<i>An Architecture for Location Aware Applications ("Alipes")</i>	35 U.S.C. § 102(a)	James Nord; IEEE	2002
<i>MoteTrack: A Robust, Decentralized Approach to RF-Based Location Tracking ("MoteTrack")</i>	35 U.S.C. § 102(a)	Konrad Lorincz; Springer	2005
<i>Bluetooth GPS Nav Kit, Bluetooth GPS Receiver with In-Car Navigation Software for Pocket PCs, User's Guide ("Socket - User's Guide")</i>	35 U.S.C. § 102(a)	Socket Communications, Inc.	March 2003
<i>HP iPAQ hw6500 Mobile Messenger Product Overview (HP iPAQ - Product Overview")</i>	35 U.S.C. § 102(a)	Hewlett-Packard	March 2005
<i>HP iPAQ hw6500 Mobile Messenger Series User's Guide ("HP iPAQ - User's Guide")</i>	35 U.S.C. § 102(a)	Hewlett-Packard	June 2005

<i>Handbook for the Palm Tungsten T3 Handheld</i> ("PalmOne - T3 Handbook")	35 U.S.C. § 102(a)	Palm, Inc.	2003
<i>GPS Navigator by palmOne</i> ("PalmOne - GPS Navigator I")	35 U.S.C. § 102(a)	palmOne, Inc.	2004
<i>Taking Your First Trip With GPS Navigator by palmOne</i> ("PalmOne - GPS Navigator II")	35 U.S.C. § 102(a)	palmOne, Inc.	2004
<i>iQue M5 integrated handheld operating instructions</i> ("Garmin iQueM5 - Operating Instructions")	35 U.S.C. § 102(a)	Garmin Ltd.	November 2004
<i>iQue M5 Specification Sheet</i> ("Garmin iQueM5 - Specification")	35 U.S.C. § 102(a)	Garmin Ltd.	2004
<i>GPS 10 Specification Sheet</i> (2005) ("Garmin GPS 10 - Spec Sheet")	35 U.S.C. § 102(a)	Garmin Ltd.	2005
<i>GPS 10 Technical Specifications</i> (Feb. 2005) ("Garmin GPS10 - Tech Specs")	35 U.S.C. § 102(a)	Garmin Ltd.	February 2005
<i>Garmin's GPS 10, Bluetooth enabled portable GPS</i> ("Garmin GPS10 - Article")	35 U.S.C. § 102(a)	Marc Pertion; YAHOO! FIN.	January 31, 2005
<i>Location-Based Services for WAP Phone Users in a Shopping Centre, in Applied GIS and Spatial Analysis</i>	Pre-AIA 35 U.S.C. § 102(b) and AIA 35 U.S.C. § 102(a)	António S. Câmara and António Eduardo Dias	November 2003

<i>Discovering Bluetooth</i>	Pre-AIA 35 U.S.C. § 102(b) and 35 U.S.C. § 102(a)	Michael Miller	2001
<i>Place Lab: Device Positioning Using Radio Beacons in the Wild</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Anthony LaMarca et al.	October 2004
<i>Place Lab — An Open Architecture for Location-Based Computing</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Timothy Sohn et al.	2005
<i>Experiences with Place Lab: An Open Source Toolkit for Location-Aware Computing, in Proceedings of the 28th international conference on Software engineering, Shanghai, China</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Timothy Sohn et al.	2006
<i>An Architecture for Location Aware Applications, in 9 Proceedings of the 35th Annual Hawaii International Conference on System Sciences</i>	Pre-AIA 35 U.S.C. § 102(b) and 35 U.S.C. § 102(a)	James Nord et al.	2002
<i>MoteTrack: A Robust, Decentralized Approach to RF-Based Location Tracking, in 3479 Location- and Context-Awareness, LoCA 2005</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Konrad Lorincz & Matt Welsh	May 2005
<i>The Connected User Interface Realizing a Personal Situated Navigation Service, in the proceedings of UI-</i>	Pre-AIA 35 U.S.C. § 102(b) and 35 U.S.C. § 102(a)	Antonio Kruger et al.	January 2004

CADUI04: Intelligent User Interface Funchal, Madeira Portugal,			
<i>Bluetooth GPS Nav Kit, Bluetooth GPS Receiver with In-Car Navigation Software for Pocket PCs, User's Guide</i>	Pre-AIA 35 U.S.C. § 102(b) and 35 U.S.C. § 102(a)	Socket Communications, Inc.	March 2003
<i>HP iPAQ hw6500 Mobile Messenger Product Overview</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Hewlett-Packard	March 2005
<i>HP iPAQ hw6500 Mobile Messenger Series User's Guide</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Hewlett-Packard	June 2005
<i>Handbook for the Palm Tungsten T3 Handheld</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Palm, Inc.	2003
<i>GPS Navigator by palmOne</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	palmOne, Inc.	2004
<i>Taking Your First Trip With GPS Navigator by palmOne</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	palmOne, Inc.	2004
<i>iQue M5 integrated handheld operating instructions</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Garmin Ltd.	November 2004
<i>iQue M5 Specification Sheet</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Garmin Ltd.	2004
<i>GPS 10 Specification Sheet</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C.	Garmin Ltd.	2005

	§ 102(a)		
<i>GPS 10 Technical Specifications</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	Garmin Ltd.	February 2005
<i>Garmin's GPS 10, Bluetooth enabled portable GPS</i>	Pre-AIA 35 U.S.C. § 102(a) and 35 U.S.C. § 102(a)	YAHOO! FIN.	January 31, 2005

C. Products and Systems

Defendants' investigation and discovery for prior art systems remains ongoing, and Defendants' reserve the right to identify and rely upon additional prior art system references. In particular, Defendants reserve the right to rely on any prior art systems that are described in the patent and publication prior art listed above or that was developed, sold, or manufactured by the original assignees or authors of the patent and publication references above. Defendants are diligently seeking and will continue to diligently seek documents from third parties in discovery to demonstrate such third parties' earlier dates of invention under 35 U.S.C. § 102(g) and/or prior art offers for sale and public uses of products embodying the claimed invention under 35 U.S.C. § 102(b) or under 35 U.S.C. § 102(a).

In addition, Defendants reserve the right to rely on the following systems that are prior art to the Asserted Patents under at least 35 U.S.C. §§ 102(a), (b) and/or (g). Invalidity claim charts for these references are attached as Exhibits A-01 through A-27, B-01 through B-35, and C-01 through C-24.

Defendants reserve the right to supplement these Invalidity Contentions with further information and documentation, if and when it becomes available.

The products, components, systems, and methods listed below constitute prior art under 35 U.S.C. § 102 because they were invented, designed, developed, reduced to practice and/or in public

use, or on sale, and/or in the public's knowledge prior to the priority date of the Asserted Patents. Furthermore, none of the products, components, systems, and methods listed below were abandoned, suppressed, or concealed. To support Defendants' position that following systems are prior art, Defendants reserve the right to rely on the following sources of evidence.

Prior Art Reference	Sources	Prior Art Provision
Challenge	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Challenge. Challenge qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by September 2003; (2) in public use or on sale in the United States no later than June 2004; or (3) reduced to practice in the United States no later than September 2003 without being abandoned, suppressed, or concealed. Challenge was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before September 2003. To support Challenge's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Bill N. Schilit et al., <i>Challenge: Ubiquitous Location-Aware Computing and the "Place Lab" Initiative</i>, in Proceedings of the 1st ACM Workshop on Wireless Mobile Applications and Services on WLAN Hotspots (WMASH '03) 55 (ACM 2003) ("Challenge") Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants' investigation progresses. At the time of these contentions, the Challenge system's owner has not produced any discovery related to Challenge, and Samsung reserves the right to supplement the contentions based on review of production related to Challenge, if any. The substantive disclosures of Challenge, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	35 U.S.C. §§ 102(a) and (b)
Cricket	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Cricket. Cricket qualifies as prior	35 U.S.C. §§ 102(a) and (b)

	art under § 102 because it was either (1) known or used by others in the U.S at least by August 2000; (2) in public use or on sale in the United States no later than June 2004; or (3) reduced to practice in the United States no later than August 2000 without being abandoned, suppressed, or concealed. Cricket was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before August 2000. To support Cricket’s substantive disclosures and status as prior art under § 102, Defendants’ reserve the right to rely on the following sources of evidence: • Nissanka B. Priyantha, Anit Chakraborty & Hari Balakrishnan, <i>The Cricket Location-Support System</i>, in Proceedings of the 6th Annual International Conference on Mobile Computing and Networking 32 (ACM 2000) (“Cricket”) Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants’ investigation progresses. At the time of these contentions, the Cricket system’s owner has not produced any discovery related to Cricket, and Samsung reserves the right to supplement the contentions based on review of production related to Cricket, if any. The substantive disclosures of Cricket, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	
RADAR	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to RADAR. RADAR qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by March 2000; (2) in public use or on sale in the United States no later than June 2004; or (3) reduced to practice in the United States no later than March 2000 without being abandoned, suppressed, or concealed. RADAR was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before March 2000. To support RADAR’s substantive disclosures and status as prior art under § 102, Defendants’ reserve the right to rely on the following sources of evidence: • Paramvir Bahl & Venkata N. Padmanabhan, <i>RADAR: An In-Building RF-Based User Location and Tracking System</i>, in Proceedings of IEEE	35 U.S.C. §§ 102(a) and (b)

	INFOCOM 2000: Nineteenth Annual Joint Conference of the IEEE Computer and Communications Societies 775 (IEEE March 2000) (“RADAR”) Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants’ investigation progresses. At the time of these contentions, the RADAR system’s owner has not produced any discovery related to RADAR, and Samsung reserves the right to supplement the contentions based on review of production related to RADAR, if any. The substantive disclosures of RADAR, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	
ActiveCampus	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to ActiveCampus. ActiveCampus qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by October 2004; (2) in public use or on sale in the United States no later than October 2004; or (3) reduced to practice in the United States no later than October 2004 without being abandoned, suppressed, or concealed. ActiveCampus was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before October 2004. To support ActiveCampus’s substantive disclosures and status as prior art under § 102, Defendants’ reserve the right to rely on the following sources of evidence: • William G. Griswold et al., <i>ActiveCampus: Experiments in Community-Oriented Ubiquitous Computing</i>, Computer, Oct. 2004, at 73–81 (“ActiveCampus”) Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants’ investigation progresses. At the time of these contentions, the ActiveCampus system’s owner has not produced any discovery related to ActiveCampus, and Samsung reserves the right to supplement the contentions based on review of production related to ActiveCampus, if any. The substantive disclosures of ActiveCampus, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	35 U.S.C. § 102(a)

B-MAD System	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to B-MAD System. B-MAD System qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by June 2004; (2) in public use or on sale in the United States no later than June 2004; or (3) reduced to practice in the United States no later than June 2004 without being abandoned, suppressed, or concealed. B-MAD System was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before June 2004. To support B-MAD System’s substantive disclosures and status as prior art under § 102, Defendants’ reserve the right to rely on the following sources of evidence: • Lauri Aalto et al., <i>Bluetooth and WAP Push Based Location-Aware Mobile Advertising System</i>, in Proceedings of the 2d International Conference on Mobile Systems, Applications, and Services (MobiSys ’04) 49 (ACM 2004) (“B-MAD”) Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants’ investigation progresses. At the time of these contentions, thr B-MAD System’s owner has not produced any discovery related to B-MAD System, and Samsung reserves the right to supplement the contentions based on review of production related to B-MAD System, if any. The substantive disclosures of B-MAD System, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	35 U.S.C. § 102(a)
Scanning4Life	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Scanning4Life. Scanning4Life qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by October 17, 2013; (2) in public use or on sale in the United States no later than October 17, 2013; or (3) reduced to practice in the United States no later than October 17, 2013 without being abandoned, suppressed, or concealed. Scanning4Life was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before October 17, 2013. To support Scanning4Life’s substantive disclosures and status as prior art under § 102, Defendants’ reserve the right to rely on the following sources of evidence:	35 U.S.C. § 102(a)

	• File history of U.S. Pat. No. 9,374,673 (“’673 Patent”), one of the alleged parents of the ’507 Patent, Attachment to Applicant’s October 17, 2013 Response to Office Action dated May 17, 2013 (“Scanning4Life”) Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants’ investigation progresses. At the time of these contentions, Samsung has not obtained any discovery related to Scanning4Life, and we reserve the right to supplement the contentions based on review of production related to Scanning4Life, if any. The substantive disclosures of Scanning4Life, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	
iBeacon	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to iBeacon. iBeacon qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by June 2, 2014; (2) in public use or on sale in the United States no later than June 2, 2014; or (3) reduced to practice in the United States no later than June 2, 2014 without being abandoned, suppressed, or concealed. iBeacon was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before June 2, 2014. To support iBeacon’s substantive disclosures and status as prior art under § 102, Defendants’ reserve the right to rely on the following sources of evidence: • Apple, <i>Apple iBeacon User Guide</i>, https://macmagazine.com.br/wp-content/uploads/2015/03/14-ibeacon-manual-com-selo.pdf (Jul. 3, 2014) (“User Guide”) • Apple, <i>Getting Started with iBeacon</i>, https://developer.apple.com/ibeacon/Getting-Started-with-iBeacon.pdf (Jun. 2, 2014) • Smart Technology. Delievered, <i>iBeacon Sample Apps</i> <i>BL600</i>, https://www.ezurio.com/documentation/application-note-ibeacon-sample-apppdf (“Sample Apps”). Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants’	35 U.S.C. § 102(a)

	investigation progresses. At the time of these contentions, Samsung has not obtained any discovery related to iBeacon, and we reserve the right to supplement the contentions based on review of production related to iBeacon, if any. The substantive disclosures of iBeacon, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	
NAV4	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to NAV4. NAV4 qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by May 21, 2014; (2) in public use or on sale in the United States no later than May 21, 2014; or (3) reduced to practice in the United States no later than May 21, 2014 without being abandoned, suppressed, or concealed. NAV4 was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before May 21, 2014. To support NAV4's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Ehud Mendelson, Blue Umbrella Presentation, available at https://www.slideshare.net/slideshow/blue-umbrella-presentation/53858207 ("Blue Umbrella Presentation") Defendants reserve the right to rely on other sources of evidence identified as discovery as Defendants' investigation progresses. At the time of these contentions, Samsung has not obtained any discovery related to NAV4, and we reserve the right to supplement the contentions based on review of production related to NAV4, if any. The substantive disclosures of NAV4, as compared to the limitations of the Asserted Claims, are provided in the claim charts attached hereto.	35 U.S.C. § 102(a)
DiWay	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to DiWay. DiWay qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by November 2003; (2) in public use or on sale in the United States no later than ;or (3) reduced to practice in the United States no later than November 2003 without being abandoned, suppressed, or	Pre-AIA 35 U.S.C. §§ 102(b), (g) and 35 U.S.C. § 102(a)

	concealed. DiWay was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before November 2003. To support DiWay's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • António S. Câmara and António Eduardo Dias, <i>Location-Based Services for WAP Phone Users in a Shopping Centre</i>, in <i>Applied GIS and Spatial Analysis</i> 55-70 (John Stillwell et al. eds., Nov. 2003) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the DiWay system's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the DiWay system's owner's production, if any. The substantive disclosures of DiWay, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
Place Lab	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Place Lab. Place Lab qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by October 2004; (2) in public use or on sale in the United States no later than October 2004; or (3) reduced to practice in the United States no later than October 2004 without being abandoned, suppressed, or concealed. Place Lab was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before October 2004. To support Place Lab's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Anthony LaMarca et al., <i>Place Lab: Device Positioning Using Radio Beacons in the Wild</i> (Intel Corp. October 2004) • Timothy Sohn et al., <i>Place Lab — An Open Architecture for Location-Based Computing</i> (2005),	Pre-AIA 35 U.S.C. §§ 102(a), (g) and 35 U.S.C. § 102(a)

	https://cseweb.ucsd.edu/~wgg/CSE210/placelab-fse05-final.pdf Timothy Sohn et al., <i>Experiences with Place Lab: An Open Source Toolkit for Location-Aware Computing</i>, in Proceedings of the 28th international conference on Software engineering, Shanghai, China, May 20-28, 2006, 462-471 (2006), https://www.microsoft.com/en-us/research/wp-content/uploads/2016/02/icse2006-placelab.pdf Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the Place Lab system's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the Place Lab system's owner's production, if any. The substantive disclosures of Place Lab, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
Alipes	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Alipes. Alipes qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by 2002; (2) in public use or on sale in the United States no later than 2002; or (3) reduced to practice in the United States no later than 2002 without being abandoned, suppressed, or concealed. Alipes was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before 2002. To support Alipe's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: James Nord et al., <i>An Architecture for Location Aware Applications</i>, in 9 Proceedings of the 35th Annual Hawaii International Conference on System Sciences, 293 (2002) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the Alipes system's owner has not yet produced any	Pre-AIA 35 U.S.C. §§ 102(b), (g) and 35 U.S.C. § 102(a)

	discovery, and we reserve the right to supplement the contentions based on review of the Alipes system's owner's production, if any. The substantive disclosures of Alipes, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
MoteTrack	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to MoteTrack. MoteTrack qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by May 2005; (2) in public use or on sale in the United States no later than May 2005; or (3) reduced to practice in the United States no later than May 2005 without being abandoned, suppressed, or concealed. MoteTrack was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before May 2005. To support MoteTrack's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Konrad Lorincz & Matt Welsh, <i>MoteTrack: A Robust, Decentralized Approach to RF-Based Location Tracking</i>, in 3479 Location- and Context-Awareness, LoCA 2005, 63-82 (Thomas Strang & Claudia Linnhoff-Popien eds., May 2005) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the MoteTrack system's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the MoteTrack system's owner's production, if any. The substantive disclosures of MoteTrack, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	Pre-AIA 35 U.S.C. §§ 102(a), (g) and 35 U.S.C. § 102(a)
Socket	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Socket. Socket qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by January 2003; (2) in public use or on sale in the United States no later than January 2003; or (3) reduced to practice in the United States no later than January 2003 without being abandoned, suppressed, or concealed. Socket was likely in public use or on sale in the	Pre-AIA 35 U.S.C. §§ 102(b), (g) and 35 U.S.C. § 102(a)

	U.S. and/or reduced to practice in the United States by or before January 2003. To support Socket's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Socket Communications, Inc., <i>Bluetooth GPS Nav Kit, Bluetooth GPS Receiver with In-Car Navigation Software for Pocket PCs, User's Guide</i> (Mar. 2003) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the Socket system's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the Socket system's owner's production, if any. The substantive disclosures of Socket, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
HP iPAQ	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to HP iPAQ. HP iPAQ qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by March 2005; (2) in public use or on sale in the United States no later than March 2005; or (3) reduced to practice in the United States no later than March 2005 without being abandoned, suppressed, or concealed. HP iPAQ was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before March 2005. To support HP iPAQ's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Hewlett-Packard, <i>HP iPAQ hw6500 Mobile Messenger Product Overview</i> (Mar. 2005) • Hewlett-Packard, <i>HP iPAQ hw6500 Mobile Messenger Series User's Guide</i> (1st. ed. June 2005) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the Socket system's owner has not yet produced any discovery, and we reserve the right to supplement the	Pre-AIA 35 U.S.C. §§ 102(a), (g) and 35 U.S.C. § 102(a)

	contentions based on review of the Socket system's owner's production, if any. The substantive disclosures of Socket, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
Palm with GPS	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Palm with GPS. Palm with GPS qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by June 2004; (2) in public use or on sale in the United States no later than June 2004; or (3) reduced to practice in the United States no later than June 2004 without being abandoned, suppressed, or concealed. Palm with GPS was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before June 2004. To support Palm with GPS's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: • Palm, Inc., <i>Handbook for the Palm Tungsten T3 Handheld</i> (2003) • palmOne, Inc., <i>GPS Navigator by palmOne</i> (2004) • palmOne, Inc., <i>Taking Your First Trip With GPS Navigator by palmOne</i> (2004) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the Palm with GPS system's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the Palm with GPS system's owner's production, if any. The substantive disclosures of Palm with GPS, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	Pre-AIA 35 U.S.C. §§ 102(a), (g) and 35 U.S.C. § 102(a)
Garmin iQue	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Garmin iQue. Garmin iQue qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by November 2004; (2) in public use or on sale in the United States no later than November 2004; or (3) reduced to practice in the	Pre-AIA 35 U.S.C. §§ 102(a), (g) and 35 U.S.C. § 102(a)

	United States no later than November 2004 without being abandoned, suppressed, or concealed. Garmin iQue was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before November 2004. To support Garmin iQue's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: - Garmin Ltd., <i>iQue M5 integrated handheld operating instructions</i> (Nov. 2004) - Garmin Ltd., <i>iQue M5 Specification Sheet</i> (2004) Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the Garmin iQue's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the Garmin iQue's owner's production, if any. The substantive disclosures of Garmin iQue, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
GPS 10	Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to GPS 10. GPS 10 qualifies as prior art under § 102 because it was either (1) known or used by others in the U.S at least by January 2005; (2) in public use or on sale in the United States no later than January 2005; or (3) reduced to practice in the United States no later than January 2005 without being abandoned, suppressed, or concealed. GPS 10 was likely in public use or on sale in the U.S. and/or reduced to practice in the United States by or before January 2005. To support GPS 10's substantive disclosures and status as prior art under § 102, Defendants' reserve the right to rely on the following sources of evidence: - Garmin Ltd., <i>GPS 10 Specification Sheet</i> (2005) - Garmin Ltd., <i>GPS 10 Technical Specifications</i> (Feb. 2005) <i>Garmin's GPS 10, Bluetooth enabled portable GPS, YAHOO! FIN.</i> (Jan. 31, 2005), https://sg.finance.yahoo.com/news/2005-01-31-	Pre-AIA 35 U.S.C. §§ 102(a), (g) and 35 U.S.C. § 102(a)

	garmins-gps-10-bluetooth-enabled-portable-gps.html Defendants reserve the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses. At the time of these contentions, the GPS 10's owner has not yet produced any discovery, and we reserve the right to supplement the contentions based on review of the GPS 10's owner's production, if any. The substantive disclosures of GPS 10, as compared to the limitations of the Asserted Claims, is provided in the claim charts attached hereto.	
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Defendants reserves the right to rely on other sources of evidence identified as discovery and Defendants' investigation progresses.

Dated: October 13, 2025

Respectfully submitted,

/s/ Neil P. Sirota

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record who are deemed to have consented to electronic service are being served today, October 13, 2025, with a copy of this document via electronic mail.

/s/ Neil P. Sirota
Neil P. Sirota