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

MOBILE TELECOMMUNICATIONS TECHNOLOGIES, LLC,	§	
	§	
v.	§	CASE NO. 2:16-CV-2-JRG-RSP
	§	
GOOGLE INC.	§	

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On December 2, 2016, the Court held a hearing to determine the proper construction of disputed claim terms in United States Patents No. 5,581,804, 5,754,946, 5,809,428, and 5,894,506. Having reviewed the arguments made by the parties at the hearing and in their claim construction briefing (Dkt. Nos. 99, 115, and 119),[1] having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Memorandum and Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

[1] Citations to documents (such as the parties' briefs and exhibits) in this Claim Construction Memorandum and Order refer to the page numbers of the original documents rather than the page numbers assigned by the Court's electronic docket unless otherwise indicated.

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I. BACKGROUND

Plaintiff has alleged infringement of United States Patents No. 5,581,804 ("the '804 Patent"), 5,754,946 ("the '946 Patent"), 5,809,428 ("the '428 Patent"), and 5,894,506 ("the '506 Patent") (collectively, the "patents-in-suit"). The patents-in-suit relate to wireless communications.

The Court previously construed terms in the asserted patents in:

Mobile Telecommunications Technologies, LLC v. Clearwire Corp., et al., No. 2:12-CV-308, Dkt. No. 72 (E.D. Tex. July 1, 2013) ("*Clearwire*");

Mobile Telecommunications Technologies, LLC v. Sprint Nextel Corp., et al., No. 2:12-CV-832, Dkt. No. 162 (E.D. Tex. May 2, 2014) ("*Sprint*"), Civil Action Nos. 2:13-CV-258 (consolidated with *Sprint* and sometimes referred to as the "Apple" case), 2:13-CV-259 (consolidated with *Sprint* and sometimes referred to as the "Samsung" case or as "*MTel I*");

Sprint, Dkt. No. 384 (E.D. Tex. Nov. 7, 2014) ("*Apple Summary Judgment Order*");

MTel I, Dkt. No. 81 (E.D. Tex. Dec. 11, 2014) ("*Samsung Supplemental Order*");

Mobile Telecommunications Technologies, LLC v. Amazon.com, Inc., No. 2:13-CV-883, Dkt. No. 79 (E.D. Tex. Nov. 5, 2014) ("*Amazon*");

Mobile Telecommunications Technologies, LLC v. T-Mobile USA, Inc., et al., No. 2:13-CV-886, Dkt. No. 108 (E.D. Tex. Jan. 23, 2015) ("*T-Mobile*");

Mobile Telecommunications Technologies, LLC v. LG Electronics Mobilecomm USA, Inc., No. 2:13-CV-947, Dkt. No. 94 (E.D. Tex. May 13, 2015) ("*LG*");

Mobile Telecommunications Technologies, LLC v. Leap Wireless International, Inc., et al., No. 2:13-CV-885, Dkt. No. 114 (E.D. Tex. May 13, 2015) ("*Leap*," which has sometimes been referred to as "*Cricket*"); and

Mobile Telecommunications Technologies, LLC v. ZTE (USA) Inc., et al., No. 2:13-CV-946, Dkt. No. 149 (E.D. Tex. Apr. 12, 2016) ("*ZTE*," or sometimes referred to by the parties here as "*HTC*").

The asserted patents have also been construed by the Northern District of Texas in *Mobile Telecommunications Technologies, LLC v. Blackberry Corp.*, No. 3:12-CV-1652, Dkt. No. 244 (N.D. Tex. May 8, 2015) (Lynn, J.) ("*Blackberry*").

One of the Defendants in the above-captioned litigation, Microsoft Corp., has reached a settlement with Plaintiff. *See, e.g.*, Dkt. No. 116. Thus, the only remaining active Defendant is Google Inc. For convenience, the present Claim Construction Memorandum and Order nonetheless continues to refer to "Defendants" in the plural.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion. Those preliminary constructions are set forth below within the discussion for each term.

II. LEGAL PRINCIPLES

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). "In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) (citation omitted). "In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the 'evidentiary

underpinnings' of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal." *Id.* (citing 517 U.S. 370).

To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See Phillips*, 415 F.3d at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312-13; *accord Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314-15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979 (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *accord Teleflex, Inc. v. Ficosa N. Am.*

Corp., 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex*, 299 F.3d at 1325. But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *accord Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent."). "[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too

broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

The Supreme Court of the United States has "read [35 U.S.C.] § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). "A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus,* 134 S. Ct. 2120.

In general, prior claim construction proceedings involving the same patents-in-suit are "entitled to reasoned deference under the broad principals of *stare decisis* and the goals articulated by the Supreme Court in *Markman*, even though *stare decisis* may not be applicable *per se*." *Maurice Mitchell Innovations, LP v. Intel Corp.*, No. 2:04-CV-450, 2006 WL 1751779, at *4 (E.D. Tex. June 21, 2006) (Davis, J.); *see TQP Development, LLC v. Inuit Inc.*, No. 2:12-CV-180, 2014 WL 2810016, at *6 (E.D. Tex. June 20, 2014) (Bryson, J.) ("[P]revious claim constructions in cases involving the same patent are entitled to substantial weight, and the Court has determined that it will not depart from those constructions absent a strong reason for doing so."); *see also Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 839-40 (2015) ("prior

cases will sometimes be binding because of issue preclusion and sometimes will serve as persuasive authority") (citation omitted); *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1329 (Fed. Cir. 2008) (noting "the importance of uniformity in the treatment of a given patent") (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996)).

III. THE PARTIES' STIPULATED TERMS

The parties reached agreement on constructions as stated in their September 9, 2016 Joint Claim Construction and Prehearing Statement (Dkt. No. 78, Ex. A) and their November 23, 2016 Joint Claim Construction Chart (Dkt. No. 121, Ex. A). Those agreements are set forth in Appendix A to the present Claim Construction Memorandum and Order.

IV. CONSTRUCTION OF DISPUTED TERMS IN U.S. PAT. NO. 5,581,804

The '804 Patent is a divisional of United States Patent No. 5,590,403, which the Court previously construed in *Clearwire*, *Sprint*, *Leap*, and *T-Mobile*. Plaintiff submits that the Court has not previously construed any terms in the '804 Patent. Dkt. No. 99 at 1. Terms in the '804 Patent were, however, construed by the Northern District of Texas in *Blackberry*.

A. "base transmitter(s)," "base receiver(s)," "base [device]," and "mobile [device]" (Terms 46, 48-50)[2]

"base transmitter(s)" (Claims 5, 10; Term 46)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a transmitter that operates in an identifiable, fixed location"	"transmitter(s) for direct wireless communication with mobile transceivers, with the understanding that transmitting multiple signals or outputs from a single structural unit cannot suffice as multiple transmitters"

[2] Term numbers set forth herein refer to the term numbers specified in the parties' September 9, 2016 P.R. 4-3 Joint Claim Construction Chart and Prehearing Statement (Dkt. No. 78, Ex. B) and the parties' November 23, 2016 Joint Claim Construction Chart (Dkt. No. 121, Ex. A).

"base receiver(s)" (Claims 5, 10; Term 48)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a receiver that operates in an identifiable, fixed location"	"receiver(s), separate from base transmitter(s), capable of receiving wireless signals directly from mobile units"
"base [device]" (Claims 5, 10; Term 49)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"describes a device that operates in an identifiable, fixed location"	Not appropriate to construe the term "base" in isolation, separate from surrounding claim language. Defendants propose "base transmitter(s)" be construed as "transmitter(s) for direct wireless communication with mobile transceivers, with the understanding that transmitting multiple signals or outputs from a single structural unit cannot suffice as multiple transmitters"
"mobile [device]" (Claims 5, 10; Term 50)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"describes a device that operates in a non-fixed location"	Not appropriate to construe the term "mobile" in isolation, separate from surrounding claim language.

Dkt. No. 78, Ex. B at 17-18; Dkt. No. 121, Ex. A at 31-33. The parties submit that these terms appear in Claims 5 and 10 of the '804 Patent. Dkt. No. 78, Ex. B at 17-18; Dkt. No. 121, Ex. A at 31-33.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"base transmitter" (Claims 5, 10; Term 46)	"transmitter that operates in a fixed location and that can transmit wireless signals to mobile transceivers"
"base receiver" (Claims 5, 10; Term 48)	"receiver that operates in a fixed location and that can receive wireless signals from mobile units"
"base [device]" (Claims 5, 10; Term 49)	No separate construction necessary
"mobile [device]" (Claims 5, 10; Term 50)	Plain meaning

(1) The Parties' Positions

Plaintiff argues that the specification discloses that whereas "the location of the portable/mobile units may be unknown as the units move throughout the network," "the base transmitters and receivers exist within a known location." Dkt. No. 99 at 3 (citing '804 Patent at 10:43-46 & 19:20-22). Plaintiff also submits that "'[w]ireless' does not appear in the claims or the specification and the only mention of 'radio frequency' occurs in discussion of the mobile unit." Dkt. No. 99 at 4.

Defendants respond: (1) "[t]he '804 patent only discloses base transmitters and receivers that communicate wirelessly with mobile units, via antennas"; (2) "consistent with the Court's prior construction of this term in the '403 patent (which is related to the '804 patent), . . . a single structural unit transmitting multiple signals cannot suffice as multiple transmitters"; and (3) "the intrinsic evidence shows Defendants' proposal that 'base receiver(s)' be interpreted such that they are separate devices from the claimed base transmitters, is correct." Dkt. No. 115 at 15.

As to "base device," Defendants argue that "[t]he term 'base' is only used in the '804 patent in conjunction with the word 'transmitter' or 'receiver,' and its meaning will therefore be addressed in the construction of 'base transmitter' and 'base receiver.'" Dkt. No. 115 at 16.

As to "mobile device," "[a]lthough Defendants do not necessarily disagree with [Plaintiff's] proposed construction for 'mobile,' [Plaintiff] offers no reason to construe that word, as the meaning of the word 'mobile' is not disputed." Dkt. No. 115 at 16.

Plaintiff replies that "[t]he '804 Patent teaches that the antenna is not part of the base transmitters, but merely attached thereto." Dkt. No. 119 at 1. Plaintiff also argues that "the identification that the term ['base station'] is used in wireless does not limit its use to that area." *Id.* at 1 n.1. Further, Plaintiff argues that "Defendants[']reliance on 'structural unit' excludes the Court's full statement" in *Clearwire*. *Id.* at 2. "Finally," Plaintiff argues, "Defendants' proposals that require 'direct' communication between the mobile unit and the base transmitter/receiver and that base transmitters/receivers not be co-located limit the scope of the claims to a preferred embodiment without justification." *Id.*

At the December 2, 2016 hearing, the parties presented arguments as to "base transmitter" and "base receiver." The parties did not present any separate oral argument as to "base [device]" or "mobile [device]." As to "base transmitter" and "base receiver," Defendants stated that the Court's preliminary construction was acceptable to Defendants. Plaintiff proposed referring to "radio frequency" ("RF") signals rather than "wireless" signals. Plaintiff argued that such a construction would be more appropriate because the specification discloses that a transmitter or receiver may be connected to an antenna by a wire (such that the signals do not become "wireless" until emitted by the separate antenna). Defendants responded that "wireless" is much easier to understand and properly explains that the transmitter or receiver is what is performing the wireless communication.

(2) Analysis

In *Clearwire*, the Court construed the terms "transmitter" and "base transmitter" in the '403 Patent to have their plain and ordinary meaning. *See Clearwire* at 4-5. The Court also found:

> Although the Court recognizes that claims 1 and 10 are method claims, a person of ordinary skill in the art would understand the terms "transmitter" and "base transmitter" to refer to a structural unit, and thus, the number of transmitters in a given system or method is dependent on structure, not function. . . . [T]he Court rejects [Plaintiff's] implication that transmitting multiple signals or outputs from a single structural unit can suffice as multiple transmitters.

Id. at 5 (citing '403 Patent at 15:42-44). Nonetheless, the Court also "reject[ed] Clearwire's proposition that a 'transmitter' must be spatially separated or geographically dispersed from other transmitters, because Clearwire has provided no evidence to support reading such a limitation into the claims." *Id.* at 6.

In *Sprint*, shortly before the March 7, 2014 claim construction hearing, the Court provided the parties with the following preliminary construction for "base transmitter": "Plain meaning (expressly adopt the *Clearwire* findings but do not provide them to the jury as part of a construction[])." *Sprint* at 10 (original square brackets omitted). During the March 7, 2014 hearing, all parties in *Sprint* agreed to the Court adopting its preliminary construction. *Id.*

In *T-Mobile* and *Leap* the parties disputed the proper construction, and the Court again adopted the *Clearwire* findings and declined to incorporate those findings into a construction. *See T-Mobile* at 11; *see also Leap* at 10.

Having considered the arguments presented in the present case, the Court again reaches the same conclusions here as in *Clearwire*, as set forth above. Those conclusions, however, need not be set forth in an explicit claim construction. Defendants' proposal in that regard would tend to confuse rather than clarify the scope of the claims and is therefore hereby expressly rejected.

Plaintiff's proposal of "fixed" gives proper meaning to the term "base," whereas Defendants' proposals omit any such "base" limitation. *See* Dkt. No. 115, Ex. 9, *Newton's Telecom Dictionary* 73 (11th ed. 1996) (defining "base station" as: "A wireless term. A base station is the *fixed* device a mobile radio transceiver (transmitter/receiver) talks to, to talk to a person or to get to the landline phone network, public or private.") (emphasis added).

As to whether the base transmitters and base receivers must communicate wirelessly, the wireless nature of the communication is sufficiently clear in the context of the claims. In particular, Claims 5 and 10 recite communicating with a *mobile* transceiver. Also of note, the specification refers to antennas and to "transmitter coverage areas of the base transmitters." '804 Patent at 9:38-43; *see id.* at 10:39-43; *see also id.* at 19:18-20:42. Disclosures regarding wired communications pertain to how the network operations center communicates with base transmitters and base receivers (*see id.* at 20:46-50), not how the base transmitters and base receivers communicate with mobile units.

The Court rejects Plaintiff's proposal of referring to "radio frequency" signals instead of "wireless" signals. At the December 2, 2016 hearing, Defendants acknowledged that a transmitter or receiver could have an external antenna. For example, the parties essentially agreed that whereas a transmitter generates a signal for wireless transmission, that signal might be emitted by an antenna that is physically separate from the transmitter. Because there does not appear to be any dispute in this regard, Plaintiff's proposal of "radio frequency" signals would tend to confuse rather than clarify the scope of the claims and is therefore rejected.

Defendants have not, however, adequately justified their proposals of "direct" and "directly," which would tend to introduce unnecessary confusion as to the requisite degree of directness.

Finally, Defendants argue that the "base receivers" must be separate from the "base transmitters." *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) ("Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.") (citation and internal quotation marks omitted). However, although the "base transmitters" and "base receivers" are distinct limitations, Defendants have not demonstrated that the transmitters and receivers must be separate from one another. In other words, a transmitter could be "co-located" with a receiver, as Plaintiff puts it. Dkt. No. 119 at 2. The case of *Powell v. Home Depot U.S.A., Inc.* is analogous:

> Here, the disclosure in the specification cuts against Home Depot's argument that the "cutting box" and "dust collection structure" must be separate components for purposes of the infringement analysis. The specification discloses that the "[c]utting box . . . defines an internal chamber wherein the rotating saw blade meets the work piece during the cutting process and functions to contain the sawdust and wood chips generated as the blade cuts through the wood." . . . Thus, the specification teaches that the cutting box may also function as a "dust collection structure" to collect sawdust and wood chips generated during the wood cutting process. It does not suggest that the claim terms require separate structures. *See Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1303 (Fed. Cir. 2011) ("The claims and the specifications indicate that the 'needle holder' and 'retainer member' need not be separately molded pieces."); *see also NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1310 (Fed. Cir. 2005) (noting that the asserted claim language did not support a limitation requiring that the claimed "RF receiver" and "destination processor" be separate and distinct). Nor are we convinced that the claim language "in fluid communication" requires that "cutting box" and "dust collection structure" be wholly separate structures.

Powell v. Home Depot U.S.A., Inc., 663 F.3d 1221, 1231 (Fed. Cir. 2011). Here, the disclosure of base receivers that are geographically separated from base transmitters is a feature of specific embodiments that should not be imported into the claims. *See Phillips*, 415 F.3d at 1323.

As to "base [device]" and "mobile [device]," Plaintiff has not shown that any construction is necessary apart from construction of "base transmitter" and "base receiver." In

particular, construing "mobile" as "non-fixed" would not materially aid clarity, particularly where, as here, the parties do not appear to have any substantive dispute as to the meaning of "mobile."

Therefore, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"base transmitter" (Claims 5, 10; Term 46)[3]	**"transmitter that operates in a fixed location and that can transmit wireless signals to mobile transceivers"**
"base receiver" (Claims 5, 10; Term 48)[4]	**"receiver that operates in a fixed location and that can receive wireless signals from mobile units"**
"base [device]" (Claims 5, 10; Term 49)	**No separate construction necessary**
"mobile [device]" (Claims 5, 10; Term 50)	**Plain meaning**

Further, the Court hereby adopts the above-quoted conclusions reached in *Clearwire* and orders that at trial the parties shall not present any arguments inconsistent with those conclusions.

B. "set of base transmitters" (Term 47)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"one or more base transmitters"	"a set of at least two base transmitters"

Dkt. No. 78, Ex. B at 17; Dkt. No. 121, Ex. A at 31. The parties submit that this term appears in Claim 5 of the '804 Patent. Dkt. No. 78, Ex. B at 17; Dkt. No. 121, Ex. A at 31.

[3] For clarity, only the singular form of this term is construed. The same meaning also applies to the plural term.

[4] For clarity, only the singular form of this term is construed. The same meaning also applies to the plural term.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "set of at least two base transmitters."

(1) The Parties' Positions

Plaintiff argues that "[t]his term appears only in the preamble to Claim 5 and is not a limitation." Dkt. No. 99 at 4. Alternatively, Plaintiff argues that the specification discloses a preferred embodiment in which a "set" contains only one transmitter, and Plaintiff urges that the patentee acted as its own lexicographer in this regard. *Id.*

Defendants respond that "[t]his Court has four times previously construed the 'set of base transmitters' in the related '403 patent to mean 'a set of at least two base transmitters,' and the same meaning should be given here." Dkt. No. 115 at 16 (citing *Clearwire* at 8, *Sprint* at 14, *T-Mobile* at 17 & *Leap* at 12).

Plaintiff replies that "[t]he patentee's act as his own lexicographer therefore supersedes any common understanding of the use of 's' to indicate more than one." Dkt. No. 119 at 2 (citing '804 Patent at 10:47-51).

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(2) Analysis

For the same reasons set forth in *T-Mobile* as to the related '403 Patent, the Court finds that the use of the plural form of "transmitters" demonstrates that a "set of transmitters" requires two or more transmitters. *See T-Mobile* at 13-17 (citing *Clearwire* and *Sprint*); *see, e.g., Leggett & Platt, Inc. v. Hickory Springs Mfg. Co.*, 285 F.3d 1353, 1357 (Fed. Cir. 2002) ("At the outset, the claim recites 'support wires' in the plural, thus requiring more than one welded 'support wire.'"). The Court thus reaches the same conclusion here as in *T-Mobile*.

Therefore, the Court hereby construes **"set of base transmitters"** to mean **"set of at least two base transmitters."**

C. "systemwide probe signal" (Term 51)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"probe signal transmitted across two or more zones"	"a signal for transmission by all base transmitters in a network to locate a mobile unit"

Dkt. No. 78, Ex. B at 18; Dkt. No. 121, Ex. A at 35-36. The parties submit that this term appears in Claim 10 of the '804 Patent. Dkt. No. 78, Ex. B at 18; Dkt. No. 121, Ex. A at 35-36.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "a signal transmitted in all zones of a system to locate a mobile unit."

(1) The Parties' Positions

Plaintiff argues that "the systemwide probe need only be transmitted across two or more zones." Dkt. No. 99 at 5.

Defendants respond that their proposal is consistent with prior constructions of "probe signal." Dkt. No. 115 at 17. Defendants argue that the word "systemwide," on its face, refers to the entire system. *Id.*

Plaintiff replies that "[t]he intrinsic record explicitly defines 'systemwide' (Term 51) as 'merely two or more zones.'" Dkt. No. 119 at 2 (citing '804 Patent at 11:44-46). "That explicit definition," Plaintiff argues, "cannot be dismissed by Defendants' strained reliance on a typographical error and an imagined hypothetical wherein the entire system includes only two zones." Dkt. No. 119 at 2.

At the December 2, 2016 hearing, Plaintiff urged that because the specification contrasts "systemwide" with "zonal," "systemwide" merely refers to more than one zone. Defendants responded that the specification contains no definition or disavowal that would warrant expanding the meaning of "systemwide" to encompass merely two or more zones within a system.

(2) Analysis

As a threshold matter, Plaintiff has proposed the word "probe" as part of Plaintiff's proposed construction, so Plaintiff evidently does not dispute that a "probe" signal is generated to locate a mobile unit.

Plaintiff's proposal of "two or more" fails to give effect to the constituent term "systemwide." If a system has only two zones, then transmission across two zones could be "systemwide." In a system with three or more zones, however, transmission across only two zones would not be "systemwide."

Plaintiff has cited the following disclosure regarding "two or more zones":

> The communication cycle is divided into a systemwide time interval and a zonal time interval. In the systemwide time interval, the base transmitters from at least several zones are operated in simulcast to simultaneously transmit identical information to a large geographic area. It should be understood that the systemwide time [*sic*] merely two or more zones.

'804 Patent at 11:40-46. Plaintiff corrects the final portion of this disclosure as: "It should be understood that the systemwide wide [interval need involve] merely two or more zones." Dkt. No. 99 at 4-5 (square brackets and "systemwide wide" are as in Plaintiff's brief). It is far from clear, however, that Plaintiff's correction is appropriate. In light of the apparent error in the disclosure, and in the absence of any obvious correction, no lexicography is apparent. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("Although words in

a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is *clearly* stated in the patent specification or file history.") (emphasis added); *see also CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). The Court thus rejects Plaintiff's proposal of "two or more zones."

As to whether the construction should refer to transmitters or to zones, the above-quoted disclosure refers to zones. '804 Patent at 11:40-46. This is also consistent with the purpose of locating a mobile unit because that purpose can be achieved by transmitting in all zones rather than necessarily with all transmitters. *See id.* at 11:47-56 ("the communication system need not know the location of a mobile unit to transmit to it during the systemwide time interval"; "determine its approximate location by determining which base receiver receives the acknowledgment signal"; "uncover the location of 'lost' mobile units") (emphasis added).

Therefore, the Court hereby construes **"systemwide probe signal"** to mean **"a signal transmitted in all zones of a system to locate a mobile unit."**

D. "registration signal" (Term 52)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a signal that a mobile unit generates to identify itself to the network"	No construction necessary because term is defined in preamble (which is limiting)

Dkt. No. 78, Ex. B at 18; Dkt. No. 121, Ex. A at 33. The parties submit that this term appears in Claim 5 of the '804 Patent. Dkt. No. 78, Ex. B at 18; Dkt. No. 121, Ex. A at 33.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "a signal that a mobile unit generates to identify itself to the network operations center."

(1) The Parties' Positions

Plaintiff argues that this disputed term should be construed in the same manner that the Court has previously construed the same term as used in the '428 Patent. Dkt. No. 99 at 5.

Defendants respond that "[t]he Court need not construe this term because it is already defined in the preamble of claim 5, which is limiting." Dkt. No. 115 at 18.

Plaintiff replies that "Defendants' fail to provide any justification why 'registration message' as used in the '428 Patent should be construed differently than 'registration signal' in the '804. . . . Defendants' request to limit the meaning of the term to a use of the registration signal mentioned in the preamble should be rejected." Dkt. No. 119 at 3.

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(2) Analysis

Claim 5 of the '804 Patent recites (emphasis added):

> 5. A communication method for controlling a mobile transceiver which may communicate with a communication network controlled by a computer, the network including a plurality of base transmitters for transmitting messages to the mobile transceiver and base receivers for receiving messages from the mobile transceiver, the mobile transceiver being capable of sending *registration signals* to be received by a base receiver in the network to allow the network to identify the mobile transceiver's approximate location according to the location of the base receiver(s) that received the *registration signals* and being capable of sending a message acknowledgment signal when the mobile transceiver receives a message from the network to indicate successful delivery of the message, the network using received *registration signals* to determine a set of base transmitters to be operated to transmit a message to the mobile transceiver, the method comprising the steps of:
>
> (a) storing in the network the number of *registration signals* from the mobile transceiver to the network during a first period of time and the number of messages successfully delivered to the mobile transceiver by the network during a period of time;
>
> (b) processing the stored number of *registration signals* and number of messages successfully delivered to evaluate a likelihood that a *registration signal* from said mobile transceiver will not be used by the network to determine a set of base transmitters; and

(c) sending a message to the mobile transceiver to disable the mobile transceiver's capability to transmit a *registration signal* if the likelihood exceeds a selected value.

Defendants have argued that the preamble of Claim 5 of the '804 Patent defines the term "registration signal," but no lexicography is apparent.

Blackberry construed "registration signal" in the '804 Patent to mean "a signal that is generated to update the location of a mobile unit." *Blackberry*, Ex. A at 5.

HTC construed the similar term "registration message" in the '428 Patent to mean "a message that a mobile unit generates to identify itself to the network operations center." *HTC* at 35-36. Plaintiff submits that the '428 Patent is related to the '804 Patent. *See* Dkt. No. 99 at 5; *see also Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) ("We presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning.").

On balance, the Court reaches the same conclusions here as reached in *HTC* regarding the similar term "registration message" in the '428 Patent. For example, the specification of the '804 Patent discloses that a registration signal may be transmitted "when power is restored to the mobile unit after having power removed," which suggests that a registration signal may be useful for communicating the status of a particular device rather than necessarily locating the device. '804 Patent at 29:66-30:4.

Therefore, the Court hereby construes **"registration signal"** to mean **"a signal that a mobile unit generates to identify itself to the network operations center."**

E. "disable the mobile transceiver's capability to transmit a registration signal" (Term 53)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning" In the alternative: "instruct the device not to transmit a registration signal"	"disable the mobile transceiver's capability to transmit a registration signal when the mobile transceiver would otherwise transmit such a signal"

Dkt. No. 78, Ex. B at 18; Dkt. No. 121, Ex. A at 33. The parties submit that this term appears in Claim 5 of the '804 Patent. Dkt. No. 78, Ex. B at 18; Dkt. No. 121, Ex. A at 33.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "instruct the device not to transmit a registration signal."

(1) The Parties' Positions

Plaintiff argues that "'disabling' refers to an instruction not to perform an action, not to a physical obstruction." Dkt. No. 99 at 5.

Defendants respond that "Defendants' proposed construction is consistent with th[e] plain meaning [of 'disable'] by requiring that the mobile transceiver not be capable of transmitting registration signals when it would otherwise do so." Dkt. No. 115 at 18. Defendants argue that Plaintiff's alternative proposal is incorrect because "[i]n contrast to 'disabling,' an 'instruction' not to transmit would have no effect on the 'capability' of the device to transmit." *Id.* at 19.

Plaintiff replies that "[i]f construed, . . . the term should clarify that 'disable' requires only an instruction not to transmit a registration signal, as described by the patent." Dkt. No. 119 at 3.

At the December 2, 2016 hearing, the parties did not specifically address this term.

(2) Analysis

The specification discloses:

> [I]f the central computer determines that registration of a particular mobile unit is useful, then the mobile unit preferably should receive a message from the network to cause the mobile unit to send registration signals at appropriate times. Conversely, if the central computer determines that the registration signals from the mobile unit are too frequently not useful, the mobile unit preferably should receive a message from the network to *cause the mobile unit not to transmit registration signals*.
>
> To implement this feature, the mobile transceiver unit further preferably includes a registration flag (not shown) in the display and storage logic section 1508. If the registration flag is set, the display and storage logic section 1508 causes the mobile transceiver to autonomously send a registration signal to the network operations center on a desired basis. If the registration flag is not set, the display and storage logic section 1508 *prevents any registration signals from being sent*. The registration flag may be set or removed upon command from the network operations center by transmission of an appropriate signal from a base transmitter near the mobile unit. A variety of algorithms, possibly regarding individual users or groups of users, can be used to determine whether or not the registration flag should be set. It should be appreciated that the present invention provides two distinct algorithms for implementing these registration concepts depending upon whether the registration flag is set or not in the mobile unit (i.e. the state of the mobile unit).
>
> FIG. 28(A) shows a flow chart describing a preferred method 2800 for implementing the registration concepts of the present invention wherein the registration feature of the mobile unit is disabled. *In step 2802, the network sends a message to disable the registration feature (i.e. set the registration flag to zero) of the mobile unit to disable the mobile transceiver's capability to transmit a registration signal.*

'804 Patent at 30:17-51 (emphasis added). Thus, the specification discloses an embodiment in which the disabling occurs by setting a "registration flag" rather than actually severing a circuit or otherwise impairing the mobile unit. Instead, as Plaintiff has proposed, a "disabled" mobile unit simply obeys an instruction to refrain from sending registration signals.

Therefore, the Court hereby construes **"disable the mobile transceiver's capability to transmit a registration signal"** to mean **"instruct the device not to transmit a registration signal."**

F. "locating a mobile transceiver within a region of space" (Term 56) and "retransmitting the message signal in the zone where the mobile transceiver was last known to be located using an error correcting code when the network determines" (Term 59)

"locating a mobile transceiver within a region of space" (Claim 10; Term 56)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"identifying an approximate geographic location of a mobile transceiver"[5]
"retransmitting the message signal in the zone where the mobile transceiver was last known to be located using an error correcting code when the network determines" (Claim 10; Term 59)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"retransmitting the message signal, which had not previously been transmitted using an error correcting code, in the zone where the mobile transceiver was last known to be located using an error correcting code based on the network's determination"

Dkt. No. 78, Ex. B at 19-20; Dkt. No. 121, Ex. A at 36.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

[5] Defendants previously proposed: "identifying an approximate geographic location of a mobile transceiver based on the location of the base receiver(s) that received the acknowledgment signal from a mobile transceiver sent in response to a systemwide probe signal." Dkt. No. 78, Ex. B at 19.

Term	Preliminary Construction
"locating a mobile transceiver within a region of space" (Term 56)	Plain meaning (Reject "geographic location")
"retransmitting the message signal in the zone where the mobile transceiver was last known to be located using an error correcting code when the network determines" (Term 59)	Plain meaning (Reject Defendants' proposal)

(1) The Parties' Positions

Plaintiff argues that Defendants' proposed constructions "would improperly limit the full scope of each of these claim terms by imposing limitations taken from illustrative embodiments in the specification." Dkt. No. 99 at 6.

Defendants' response brief does not address the "retransmitting . . ." term. *See* Dkt. No. 115; *see also id.*, App'x A at 14. As to the "locating . . ." term, Defendants respond that "the specification uses 'region of space' to reference a geographic area.'" Dkt. No. 115 at 21 (citing '804 Patent at 9:24-27, 9:38-43, 11:21-23, 11:41-44, 19:20-22 & 23:47-59).

Plaintiff replies that "Defendants' reliance on select excerpts of the '804 Patent is unavailing because the identified excerpts do not even discuss the embodiments claimed by Claim 10." Dkt. No. 119 at 3.

At the December 2, 2016 hearing, Defendants stated that they are not arguing that "locating" requires Global Positioning System ("GPS") coordinates.

(2) Analysis

Defendants' response brief does not address the "retransmitting . . ." term. *See* Dkt. No. 115; *see also id.*, App'x A at 14. The Court therefore rejects Defendants' proposal for the "retransmitting . . ." term.

As to the "locating . . ." term, the Court has previously addressed disputes regarding "locating" in *Amazon* and *LG*. In *Amazon,* the parties reached agreement at the October 17, 2014 hearing that, as to the term "probe message" in the '428 Patent, "location" is not limited to GPS coordinates. *Amazon* at 10. The parties there agreed that "probe message" be construed to mean "a message that is generated by the network operations center to locate a mobile unit for the purpose of determining whether the mobile unit can be reached." *Id.* In *LG,* the parties disputed the proper construction of "probe message" in the '428 Patent, and the Court construed the term to mean "a message that is generated to locate a mobile unit." *LG* at 49. *LG* noted that "the Court's construction refers to, as Plaintiff puts it, 'geographic location' or 'network location.'" *Id.* (citing *Amazon* at 9).

Similarly, here, Defendants have not demonstrated that the "locating . . ." term requires any particular manner of locating. That is, approximating a geographic location of a mobile transceiver is a specific feature of particular embodiments that should not be imported into the meaning of "locating." *See Phillips,* 415 F.3d at 1323.

At the December 2, 2016 hearing, Plaintiff asserted that the specification discloses that a mobile transceiver could be "located" as being part of a group of mobile transceivers. Plaintiff did not adequately support this assertion. To whatever extent the specification refers to groups of transceivers (*see* '804 Patent at 27:27-28), such disclosures do not demonstrate that "location" is used so broadly as to refer to membership within a group.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"locating a mobile transceiver within a region of space" (Term 56)	**Plain meaning**
"retransmitting the message signal in the zone where the mobile transceiver was last known to be located using an error correcting code when the network determines" (Term 59)	**Plain meaning**

G. Preambles of Claims 5 and 10 (Term 45)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary; the preambles are not limiting In the alternative: "plain meaning"	The preambles are limiting

Dkt. No. 78, Ex. B at 17; Dkt. No. 121, Ex. A at 31.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "Limiting."

(1) The Parties' Positions

Plaintiff submits that "Defendants have consistently refused to identify any specific term in the preamble that supposedly limits the preamble." Dkt. No. 99 at 7.

Defendants argue that the preambles provide antecedent basis for terms recited in the claim bodies. Dkt. No. 115 at 28. Defendants also argue that "[t]he preamble of claim 10 is limiting for the additional reason that it was heavily amended during prosecution in response to a rejection by the Examiner." *Id.* at 29.

Plaintiff replies that "Defendants' argument that the preamble of '804 Patent Claim 10 is limiting because it was amended during prosecution falls flat because Defendants do not explain how the preamble could or should limit the scope of the claim." Dkt. No. 119 at 10.

(2) Analysis

> In general, a preamble limits the invention if it recites essential structure or steps, or if it is "necessary to give life, meaning, and vitality" to the claim. *Pitney Bowes*[*, Inc. v. Hewlett-Packard Co.*], 182 F.3d [1298,] 1305 [(Fed. Cir. 1999)]. Conversely, a preamble is not limiting "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention." *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed. Cir. 2002); *see, e.g.*, *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) ("When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.").

Claims 5 and 10 of the '804 Patent recite (emphasis added):

> 5. A communication method for controlling *a mobile transceiver* which may communicate with **a communication network** controlled by a computer, **the network** including a plurality of base transmitters for transmitting messages to *the mobile transceiver* and base receivers for receiving messages from *the mobile transceiver*, *the mobile transceiver* being capable of sending registration signals to be received by a base receiver in **the network** to allow **the network** to identify *the mobile transceiver's* approximate location according to the location of the base receiver(s) that received the registration signals and being capable of sending a message acknowledgment signal when *the mobile transceiver* receives a message from **the network** to indicate successful delivery of the message, **the network** using received registration signals to determine a set of base transmitters to be operated to transmit a message to *the mobile transceiver*, the method comprising the steps of:
>
> (a) storing in **the network** the number of registration signals from *the mobile transceiver* to **the network** during a first period of time and the number of messages successfully delivered to *the mobile transceiver* by **the network** during a period of time;
>
> (b) processing the stored number of registration signals and number of messages successfully delivered to evaluate a likelihood that a registration signal

from said mobile transceiver will not be used by **the network** to determine a set of base transmitters; and

(c) sending a message to *the mobile transceiver* to disable *the mobile transceiver's* capability to transmit a registration signal if the likelihood exceeds a selected value.

* * *

10. A communication method implemented in a computer controlled communication network for locating *a mobile transceiver* within a region of space, the region of space being divided into a plurality of zones with each zone serviced by at least one base transmitter and at least one base receiver, the network storing data corresponding to a zone where *the mobile transceiver* was last known to be located, the communication method comprising the steps of:

(a) transmitting a message signal by a base transmitter servicing a zone where *the mobile transceiver* was last known to be located;

(b) transmitting a systemwide probe signal by a plurality of base transmitters servicing a plurality of zones if *the mobile transceiver* does not indicate receipt of the message signal from the base transmitter;

(c) receiving the systemwide probe signal by *the mobile transceiver*;

(d) transmitting an acknowledgment signal by *the mobile transceiver* in response to the received systemwide probe signal;

(e) receiving the acknowledgment signal from *the mobile transceiver* by a base receiver;

(f) updating the data stored in the network to reflect the zone of the base receiver that received the acknowledgment signal as the last known location of *the mobile transceiver*;

(g) determining whether failure of *the mobile transceiver* to receive the message transmitted in step (a) is likely caused by the mobile unit being located in a weak signal area within a zone; and

(h) retransmitting the message signal in the zone where *the mobile transceiver* was last known to be located using an error correcting code when the network determines that failure of *the mobile transceiver* to receive the message signal transmitted in step (a) is likely caused by the mobile unit being located in the weak signal area within a zone.

Because the body of Claim 5 relies upon the preamble for antecedent basis for "mobile transceiver," "network," and "registration signals," the preamble is limiting. *See Eaton*, 323 F.3d at 1339; *see also Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006) ("if the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects")

(citation and internal quotation marks omitted). Likewise, the body of Claim 10 relies upon the preamble for antecedent basis for "mobile transceiver."

At the December 2, 2016 hearing, Plaintiff argued that Defendants are attempting to create a divided infringement challenge by requiring *ownership* of the communication network rather than merely *use* of the communication network. Plaintiff's argument perhaps might be relevant to later motion practice or at trial, but Plaintiff did not sufficiently demonstrate that its concerns relate to any issue for claim construction.

Thus, the Court hereby finds that the preambles of Claims 5 and 10 of the '804 Patent are **limiting**.

H. "processing the stored number of registration signals . . ." (Term 54) and "sending a message to the mobile transceiver to disable . . ." (Term 55)

"processing the stored number of registration signals and number of messages successfully delivered to evaluate a likelihood that a registration signal from said mobile transceiver will not be used by the network to determine a set of base transmitters" (Claim 5; Term 54)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	Indefinite
"sending a message to the mobile transceiver to disable the mobile transceiver's capability to transmit a registration signal if the likelihood exceeds a selected value" (Claim 5; Term 55)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	Indefinite

Dkt. No. 78, Ex. B at 18-19; Dkt. No. 121, Ex. A at 33-34.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"processing the stored number of registration signals and number of messages successfully delivered to evaluate a likelihood that a registration signal from said mobile transceiver will not be used by the network to determine a set of base transmitters" (Claim 5; Term 54)	Plain meaning (Not indefinite)
"sending a message to the mobile transceiver to disable the mobile transceiver's capability to transmit a registration signal if the likelihood exceeds a selected value" (Claim 5; Term 55)	Plain meaning (Not indefinite)

(1) The Parties' Positions

Plaintiff argues that no construction is necessary because "[i]n the context of the trial, all the terms in these phrases will have become familiar to the jurors." Dkt. No. 99 at 7.

Defendants respond that "it is unclear what sort of 'processing' of numbers of registration signals or messages would provide the required 'likelihood.'" Dkt. No. 115 at 19.

Plaintiff replies that "each term uses language familiar to a lay jury and therefore requires no construction." Dkt. No. 119 at 3.

At the December 2, 2016 hearing, the parties reiterated their arguments.

(2) Analysis

Claim 5 of the '804 Patent recites (emphasis added):

> 5. A communication method for controlling a mobile transceiver which may communicate with a communication network controlled by a computer, the network including a plurality of base transmitters for transmitting messages to the mobile transceiver and base receivers for receiving messages from the mobile transceiver, the mobile transceiver being capable of sending registration signals to be received by a base receiver in the network to allow the network to identify the mobile transceiver's approximate location according to the location of the base receiver(s) that received the registration signals and being capable of sending a message acknowledgment signal when the mobile transceiver receives a message from the network to indicate successful delivery of the message, the network

using received registration signals to determine a set of base transmitters to be operated to transmit a message to the mobile transceiver, the method comprising the steps of:

(a) storing in the network the number of registration signals from the mobile transceiver to the network during a first period of time and the number of messages successfully delivered to the mobile transceiver by the network during a period of time;

(b) *processing the stored number of registration signals and number of messages successfully delivered to evaluate a likelihood that a registration signal from said mobile transceiver will not be used by the network to determine a set of base transmitters*; and

(c) *sending a message to the mobile transceiver to disable the mobile transceiver's capability to transmit a registration signal if the likelihood exceeds a selected value*.

Defendants argue that the "likelihood" and "selected value" are not sufficiently clear, but mathematical precision is not required. *See Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014), *cert. denied*, 136 S. Ct. 59 (2015). The above-quoted claim language, as well as the specification, provide adequate context for understanding the terms at issue. *See, e.g.*, '804 Patent at 31:50-32:43.

Defendants also argue that there is ambiguity as to whether "the network itself determine[s] whether the likelihood exceeds a selected value" or "the network could merely send the message, while the mobile transceiver makes the determination." Dkt. No. 115 at 19-20. Defendants' argument is unavailing because "[b]readth is not indefiniteness." *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1583 (Fed. Cir. 1996) (quoting *In re Gardner*, 427 F.2d 786, 788 (C.C.P.A. 1970)).

Therefore, the Court hereby expressly rejects Defendants' indefiniteness arguments. No further construction is necessary.

Accordingly, the Court hereby construes **"processing the stored number of registration signals and number of messages successfully delivered to evaluate a likelihood that a registration signal from said mobile transceiver will not be used by the network to**

determine a set of base transmitters" and **"sending a message to the mobile transceiver to disable the mobile transceiver's capability to transmit a registration signal if the likelihood exceeds a selected value"** to have their **plain meaning**.

I. "weak signal area" Terms (Terms 57, 58)

"weak signal area within a zone" (Claim 10; Term 57)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	Indefinite
"determining whether failure of the mobile transceiver to receive the message transmitted in step (a) is likely caused by [the mobile unit being located in a weak signal area within a zone]" (Claim 10; Term 58)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	Indefinite

Dkt. No. 78, Ex. B at 19; Dkt. No. 121, Ex. A at 36.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"weak signal area within a zone" (Claim 10; Term 57)	Plain meaning (Not indefinite)
"determining whether failure of the mobile transceiver to receive the message transmitted in step (a) is likely caused by [the mobile unit being located in a weak signal area within a zone]" (Claim 10; Term 58)	Plain meaning (Not indefinite)

(1) The Parties' Positions

Plaintiff argues that because the specification teaches that the location of a mobile unit can be known, and because the boundaries between zones can be known, "[o]ne skilled in the art reading the '804 Patent would understand that the '804 Patent teaches a way to determine whether failure to deliver the message is likely caused by the mobile unit being located in a weak signal area by using this known information." Dkt. No. 99 at 8.

Defendants respond that "weak" is a term of degree, and the specification "provides no basis by which to discern whether a signal area is 'weak.'" Dkt. No. 115 at 20.

Plaintiff replies that "each term uses language familiar to a lay jury and therefore requires no construction." Dkt. No. 119 at 3. Plaintiff explains that the determination of whether failure is caused by a mobile unit being in a weak signal area within a zone is based in part on whether the mobile unit is located in an area of inter-zonal interference. *Id.* at 4.

At the December 2, 2016 hearing, the parties reiterated their arguments.

(2) Analysis

The specification contrasts "weak signal area" with "inter-zonal interference":

> If the location of the mobile unit indicates that a likely reason for the failure of the mobile unit to receive the message is caused by inter-zonal interference, the network operations center may simply retransmit the message during the systemwide time interval. In other instances, the failure to successfully deliver a message may be simply caused by the mobile unit being located in a weak signal area within a zone. In these instances, the system may retransmit the message during the zonal time interval using an appropriate error correcting code or using a stronger error correcting code.

'804 Patent at 12:24-34. Thus, although the constituent term "weak" is a relative term, the term is sufficiently clear in the context of the claim and the specification. The opinion of Plaintiff's expert is also persuasive in this regard. Dkt. No. 99, Ex. 18, Aug. 26, 2015 Kesan Decl. at APP170-76.

Therefore, the Court hereby expressly rejects Defendants' indefiniteness arguments. No further construction is necessary.

Accordingly, the Court hereby construes **"weak signal area within a zone"** and **"determining whether failure of the mobile transceiver to receive the message transmitted in step (a) is likely caused by [the mobile unit being located in a weak signal area within a zone]"** to have their **plain meaning**.

J. Order of Steps in Claims 5-8 and 10 (Term 60)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
the steps may be performed in any order	Steps must be performed in the recited order.

Dkt. No. 78, Ex. B at 20; Dkt. No. 121, Ex. A at 34.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "The steps of Claim 5 must be performed in the order recited. The steps of Claim 10 must be performed in the order recited except that step (g) may be performed at any point after step (a) but must be performed before step (h). (No such showing has been made as to dependent Claims 6-8, each of which recites an additional method step without any apparent order requirement.)"

(1) The Parties' Positions

Plaintiff argues that "Defendants do not show for any claim of the '804 Patent that any step must be performed in any specific order." Dkt. No. 99 at 8.

Defendants respond that the recited steps logically build upon one another and therefore must be performed in the order recited. Dkt. No. 115 at 30.

Plaintiff replies: "Term 60 recites processing stored numbers, which change as the network continues to receive additional registration signals and acknowledgment messages.

Therefore, processing the stored values in order to determine a likelihood is a process that m[a]y extend across a temporal limit." Dkt. No. 119 at 10.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

"As a general rule, '[u]nless the steps of a method [claim] actually recite an order, the steps are not ordinarily construed to require one.'" *Mformation Techs., Inc. v. Research in Motion Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014) (quoting *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001)). Courts apply a two-part test to determine whether a particular order of steps in a method claim is required: "First, we look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written," and "[i]f not, we next look to the rest of the specification to determine whether *it* directly or implicitly requires such a narrow construction." *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369-70 (Fed. Cir. 2003) (citation omitted).

In Claim 5 of the '804 Patent, step (b) relies upon "the stored number of registration signals and number of messages successfully delivered" that were stored in step (a), and step (c) relies upon the "likelihood" determined in step (b). Thus, as a "matter of logic and grammar," the steps of Claim 5 must be performed in the order recited. *Altiris*, 318 F.3d at 1369; *see Mformation*, 764 F.3d at 1400 ("As a matter of logic, a mailbox must be established before the contents of said mailbox can be transmitted.").

Nonetheless, no such showing has been made as to dependent Claims 6-8, each of which recites an additional method step without any apparent order requirement.

In Claim 10 of the '804 Patent, step (b) requires the "message signal" transmitted in step (a). Step (c) requires the "systemwide probe signal" transmitted in step (b). Step (d) requires the "systemwide probe signal" received in step (c). Step (e) requires the "acknowledgement signal" transmitted in step (d). Step (f) requires the "acknowledgement signal" received in step (e). Step (g) refers to the message transmitted in step (a) and is relied upon by step (h), but the claim does not otherwise require an order as to step (g). Finally, step (h) requires the last known location that that was updated in step (f).

Thus, the Court finds that **the steps of Claim 5 must be performed in the order recited,** and **the steps of Claim 10 must be performed in the order recited except that step (g) may be performed at any point after step (a) but must be performed before step (h).**

V. CONSTRUCTION OF DISPUTED TERMS IN U.S. PAT. NO. 5,754,946

The '946 Patent is a continuation-in-part of United States Patent No. 5,590,403, which the Court previously construed in *Sprint*, *Amazon*, *HTC*, and *LG*.

K. Terms 61-68, 71, 73, 74

Preambles of Claims 1 and 8 (Term 61)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary; the preamble is not limiting	The preambles are limiting
Order of Steps in Claim 8 (Term 71)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
the steps may be performed in any order	Steps must be performed in the recited order.

"retransmission" (Claims 1, 7, 8; Term 62)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning with the understanding that retransmission is not limited to a message that is transmitted once and then transmitted again from the same source to the same destination, but includes a message transmitted for the first time as the second leg of a message relay"	"transmission of data, for which a previous transmission attempt of that same data was made from the communications network to the mobile unit"
"retransmission of said [specified/indicated] portion of said message" (Claims 1, 8; Term 63)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"transmitting the [specified/indicated] portion of the displayed message from the network to the mobile unit again, after a previous attempted transmission of the same data from the network to the mobile unit"
"switch actuatable" (Claims 1, 7; Term 64)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a switch that requires user activation"	"a mechanical device for making and breaking the connection in an electric circuit that requires user activation"
"said message" (Claims 1, 8; Term 65)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a radio frequency message received, at least partially, from the network"	Indefinite

"displayed message" (Claims 1, 8; Term 66)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"the particular message that is being displayed, at least partially, on the mobile unit"	Indefinite
"a portion of [the/a] [displayed] message for which a user desires retransmission" (Claims 1, 7, 8; Term 67)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"less than the entire displayed message for which the user desires retransmission"	"less than the entire displayed message, previously transmitted from the network to the mobile unit, which a user desires be transmitted from the network to the mobile unit again"
"mobile unit" (Claims 1, 7, 8; Term 68)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"a mobile unit that relies on the user to request retransmission of a message that contains an error"

"means for receiving said specified portion retransmitted from the communications network and for displaying said specified portion on the display" (Claim 1; Term 73)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "receiving said specified portion retransmitted from the communications network and for displaying said specified portion on the display" Corresponding Structure: "receiver 1506, display and storage logic section 1508 or 1708, and display 1514; and equivalents thereof"	Function: "receiving said specified portion retransmitted from the communications network and for displaying the received specified portion on the display" Structure: "mobile transceiver 1500 and 1600, including antenna 1502, receiver 1506, display and storage logic 1508 (programmed to perform the functions described at col. 14:66-15:5 and 15:66-6:37), annunciator 1510, display controls 1512, and display 1514"
"means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message" (Claim 1; Term 74)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message" Corresponding Structure: "request retransmission button 1622 or input means 1516, transmit logic 1518, transmitter 1520, and antenna 1502; and equivalents thereof"	Function: "transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message" Structure: "mobile transceiver 1500 and 1600, including antenna 1502, transmitter 1520, noise detector 1522, transmit logic 1518 (programmed to perform the functions described at col. 15:41-44, 16:56-58, and 16:66-17:23), and input switches 1516"

Dkt. No. 78, Ex. B at 21-23; Dkt. No. 121, Ex. A at 39-41 & 42-44.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
Preambles of Claims 1 and 8 (Term 61)	Limiting
Order of Steps in Claim 8 (Term 71)	Steps must be performed in the recited order.
"retransmission" (Claims 1, 7, 8; Term 62)	Plain meaning (Reject Defs.' proposal of requiring previous transmission of same data from the communications network to the mobile unit)
"retransmission of said [specified/indicated] portion of said message" (Claims 1, 8; Term 63)	Plain meaning (Reject Defs.' proposal of requiring previous transmission of same data to the mobile unit)
"switch actuatable" ('946 Pat., Cls. 1, 7; Term 64)	"a switch that requires user activation"
"said message" (Claims 1, 8; Term 65)	"a radio frequency message received, at least partially, from the network"
"displayed message" (Claims 1, 8; Term 66)	"the particular message that is being displayed, at least partially, on the mobile unit"
"a portion of [the/a] [displayed] message for which a user desires retransmission" (Claims 1, 7, 8; Term 67)	"less than the entire displayed message for which the user desires retransmission"
"mobile unit" (Claims 1, 7, 8; Term 68)	Plain meaning (Reject Defendants' proposal requiring an "error")

"means for receiving said specified portion retransmitted from the communications network and for displaying said specified portion on the display" (Claim 1; Term 73)	Function: "receiving said specified portion retransmitted from the communications network and displaying said specified portion on the display" Corresponding Structure: "antenna 1502, transmit/receive switch 1504, receiver 1506, display and storage logic section 1508 or 1708, and display 1514; and equivalents thereof"
"means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message" (Claim 1; Term 74)	Function: "transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message" Corresponding Structure: "input switches 1516, transmit logic 1518, transmitter 1520, transmit/receive switch 1504, and antenna 1502; and equivalents thereof"

(1) The Parties' Positions

Plaintiff argues that "[u]nder general principles of *stare decisis*, the Court should again construe these terms to have the construction previously given." Dkt. No. 99 at 8-9.

As to the whether the preambles are limiting, Defendants submit that the preambles provide antecedent basis for terms in the bodies of the claims. Dkt. No. 115 at 29.

As to the steps in Claim 8, Defendants argue that the steps "must be performed in the order written based on their internal logic." *Id.* at 30.

As to "retransmission," Defendants argue that "[b]ased on the plain language of the claims, a person of ordinary skill in the art would understand that *re*transmission refers to *another* transmission of data previously sent from the network to the mobile unit." *Id.* at 21.

As to "switch actuatable," Defendants respond that "[t]he patent describes a mobile unit's 'switches' as mechanical devices that respond to user activation to make and break connections in circuitry." *Id.* at 22 (citing '946 Patent at 12:22-29, 14:52-55 & Figs. 10 & 15).

As to "said message" and "displayed message," Defendants argue that "the claims are internally inconsistent with regard to the required 'message.'" Dkt. No. 115 at 23.

As to "mobile unit," "Defendants' propose the same construction as adopted in *Blackberry*. Because that construction was necessary to the summary judgment of non-infringement in Blackberry's favor (Ex. 16, 11-14), [Plaintiff] is barred from challenging it based on collateral estoppel." Dkt. No. 115 at 24.

As to the "'means for transmitting, only upon actuation of the switch . . .' (term 74)," Defendants argue that "transmit logic 1518 must be programmed to perform the functions described at col. 15:41-44, 16:56-58, and 16:66-17:23." *Id.* at 26 (citing *Amazon* at 32).

Plaintiff replies that the arguments put forth by Defendants have been addressed by the Court in prior constructions of terms in the '946 Patent. Dkt. No. 119 at 4. As to "mobile unit," Plaintiff argues that collateral estoppel does not apply because "the *BlackBerry* court expressed multiple potential reasons for finding noninfringement of BlackBerry's system." *Id.* Plaintiff argues that "Defendants' construction [for 'mobile unit'] should be rejected because it violates the doctrine of claim differentiation . . . ." *Id.* at 4-5. As to the "means . . ." terms, Plaintiff emphasizes that these terms have been construed before. *Id.* at 5.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

(a) Preambles of Claims 1 and 8 of the '946 Patent (Term 61)

The preamble of Claim 1 of the '946 Patent recites "a communications network," and the body of the claim refers to "the network." Likewise, the preamble of Claim 8 of the '946 Patent recites "a mobile unit," and the body of the claim refers to "the mobile unit." On balance, the preambles are limiting. *See Eaton*, 323 F.3d at 1339; *see also Bicon*, 441 F.3d at 952.

(b) Order of Steps in Claim 8 of the '946 Patent (Term 71)

As to the order of steps in Claim 8, each step refers back to material recited in the preceding step (emphasis added):

> 8. A method for receiving and transmitting messages at a mobile unit, comprising the steps of:
> receiving at the mobile unit *a radio frequency message*;
> *displaying said message* on the mobile unit;
> *receiving an indication* of a portion of *the displayed message* for which a user desires retransmission;
> transmitting, only upon receipt of *the indication*, a signal *requesting retransmission of said indicated portion* of said message;
> *receiving a retransmission* of said indicated portion; and
> displaying the *received retransmission* of said indicated portion on the mobile unit.

Thus, as a "matter of logic and grammar," the steps of Claim 8 must be performed in the order recited. *Altiris*, 318 F.3d at 1369; *see Mformation*, 764 F.3d at 1400.

(c) "retransmission" (Terms 62, 63)

In the *Sprint* litigation, the Court found:

> [T]he court construes the term "retransmission" to have its plain and ordinary meaning, and further finds that the plain and ordinary meaning of "retransmission" is not so limited as to require that a retransmission can only occur after a first transmission of the message from the communications network to the mobile unit.

Apple Summary Judgment Order at 3 (internal quotation marks omitted).

Also in the *Sprint* litigation, the Court addressed the term "retransmission" in a Memorandum Order granting in part and denying in part Plaintiff's Emergency Motion for Claim Construction. In particular, the Court emphasized that the term "'retransmission' is not so limited as to require that a retransmission 'can only occur after a first transmission of the message from the communications network to the mobile unit.'" *Samsung Supplemental Order* at 3.

In *Amazon*, the Court found that "[a]s to what is necessary to constitute 'retransmission,' and as to whether e-mail attachments meet the limitations at issue, such issues involve details of the accused instrumentalities that are not proper for the Court to consider during these claim construction proceedings." *Amazon* at 16 (citing *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) ("[A]fter the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact.")). Also of note, the parties in *Amazon* agreed that "retransmission" be given its "plain meaning." *Id.* at 63.

Likewise, in *LG*, the Court found:

> On balance, to whatever extent Defendant has argued that the term "retransmission" itself requires a previous transmission "attempt," Defendant's argument is hereby expressly rejected as lacking support in the intrinsic evidence. To the extent Defendant relies upon surrounding claim language to make such an argument, Defendant's argument involves details of the accused instrumentalities that are not proper for the Court to consider during these claim construction proceedings.

LG at 20 (citation omitted).

The Court adopts these prior findings, but these findings need not be set forth in an explicit claim construction. Plaintiff's proposal in that regard would tend to confuse rather than clarify the scope of the claims and therefore is hereby expressly rejected.

(d) "switch actuatable" (Term 64)

As to whether the claimed switch must be mechanical, the specification discloses a "button" that can be "located anywhere on the mobile unit":

> The *request retransmission button 1622* allows the user to request the base transmitters to retransmit received messages, or partial messages containing errors. When the mobile unit receives a message containing errors, it displays the message on display 1606 with the erroneous portions highlighted (e.g., underlined, placed in brackets, or printed in reverse video). The user reads the message and determines whether the displayed message is acceptable. If not, the user can cause the system to retransmit the message, or the erroneous portions, by *pressing request retransmission button 1622*. By *pressing button 1622*, the user causes the transmit logic 1518 to transmit a signal to the base receivers indicating that the user wishes the message or a partial message to be retransmitted. The base transmitters then retransmit the message to the mobile unit at an appropriate time.
>
> The *request retransmission button* increases system efficiency and lowers user costs by allowing the user the flexibility to elect not to request retransmission of messages which contain errors but can be understood nonetheless.
>
> The signal transmitted by the mobile unit when *the user presses the request retransmission button 1622* also indicates to the system that the user has read the message. This information can be used by the system to transmit a message back to the sender informing the sender that the message has been read, as well as for other purposes.
>
> Of course, the mobile transceiver 1500 shown in FIG. 16 could be configured differently to provide more or less reply buttons, different display control buttons, and different display formats as desired or needed by the user. *The request retransmission button 1622 could also be configured in a variety of ways, and could be located anywhere on the mobile unit.*

'946 Patent at 17:8-40 (emphasis added).

On balance, however, Defendants have failed to identify any definitive statements in the specification or the prosecution history requiring that the "switch" must be a mechanical switch.

Instead, the use of a mechanical switch is a feature of a preferred embodiment that should not be imported into the claims. *See Phillips*, 415 F.3d at 1323; *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004) ("[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.").

Therefore, the Court hereby expressly rejects Defendants' proposed construction and adopts the *Sprint* construction.

(e) "said message" and "displayed message" (Terms 65, 66)

The Court analyzed and construed these terms in *HTC*, and Defendants have not demonstrated that the claims are internally inconsistent. *HTC* at 8-14. As discussed in *HTC*, a "message" might not be received or might not be received completely or properly. *Id.* The Court therefore reaches the same constructions for "said message" and "displayed message" as in *HTC*. Thus, the Court hereby expressly rejects Defendants' indefiniteness arguments.

(f) "a portion of [the/a] [displayed] message for which a user desires retransmission" (Term 67)

This terms presents substantially the same issues as the other "retransmission" terms, and the Court reaches the same construction here as in *HTC*, which is the construction that Plaintiff proposes here. *HTC* at 20-22.

(g) "mobile unit" (Term 68)

Defendants propose the same construction that the Court rejected in *HTC*. *See HTC* at 22-24. Defendants argue that the construction should "address whether the mobile unit automatically requests retransmission of received messages as a general matter." Dkt. No. 115 at 24.

Here as in *HTC*, the Court declines to adopt the *Blackberry* construction and rejects Defendants' proposal to limit the generic term "mobile unit." Likewise, as noted in *HTC*, Defendants' proposed reference to "an error" is potentially confusing because a portion of a message might be missing rather than erroneous. *See HTC* at 24. Finally, Defendants have not sufficiently established that collateral estoppel applies as to the *Blackberry* construction.

The Court reaches the same conclusion here for the same reasons and accordingly construes "mobile unit" to have its plain meaning. *See id.* at 22-24.

(h) "means for transmitting . . ." and "means for receiving . . ." (Terms 73, 74)

HTC found that the corresponding structure for the "means for transmitting . . ." is "input switches 1516, transmit logic 1518, transmitter 1520, and antenna 1502; and equivalents thereof." *HTC* at 28. *HTC* also found that the corresponding structure for the "means for receiving . . ." is "receiver 1506, display and storage logic section 1508 or 1708, and display 1514; and equivalents thereof." *Id.* at 32.

The parties have not demonstrated that the Court should depart from the constructions reached in *LG* and *HTC* except that the "antenna 1502" and "transmit/receive switch 1504" are also necessary structures for both the transmitting and receiving functions here at issue. *See HTC* at 25-32 (citing *LG*); *see also* '946 Patent at 14:52-57, 14:66-67, 15:36-45 & Fig. 15.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
Preambles of Claims 1 and 8 (Term 61)	**Limiting**
Order of Steps in Claim 8 (Term 71)	**Steps must be performed in the recited order.**

"retransmission" (Claims 1, 7, 8; Term 62)	**Plain meaning**
"retransmission of said [specified/indicated] portion of said message" (Claims 1, 8; Term 63)	**Plain meaning**
"switch actuatable" ('946 Pat., Cls. 1, 7; Term 64)	**"a switch that requires user activation"**
"said message" (Claims 1, 8; Term 65)	**"a radio frequency message received, at least partially, from the network"**
"displayed message" (Claims 1, 8; Term 66)	**"the particular message that is being displayed, at least partially, on the mobile unit"**
"a portion of [the/a] [displayed] message for which a user desires retransmission" (Claims 1, 7, 8; Term 67)	**"less than the entire displayed message for which the user desires retransmission"**
"mobile unit" (Claims 1, 7, 8; Term 68)	**Plain meaning**
"means for receiving said specified portion retransmitted from the communications network and for displaying said specified portion on the display" (Claim 1; Term 73)	**Function:** **"receiving said specified portion retransmitted from the communications network and displaying said specified portion on the display"** **Corresponding Structure:** **"antenna 1502, transmit/receive switch 1504, receiver 1506, display and storage logic section 1508 or 1708, and display 1514; and equivalents thereof"**
"means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message" (Claim 1; Term 74)	**Function:** **"transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message"** **Corresponding Structure:** **"input switches 1516, transmit logic 1518, transmitter 1520, transmit/receive switch 1504, and antenna 1502; and equivalents thereof"**

As to the "retransmission" terms, the Court further hereby adopts the above-quoted conclusions reached in the *Apple Summary Judgment Order*, the *Samsung Supplemental Order*, *Amazon*, and *LG*, and the Court orders that at trial the parties shall not present any arguments inconsistent with those conclusions.

L. "(means for) detecting errors in the received message" (Terms 69, 75)

"detecting errors in the received message" (Claims 2, 9; Term 69)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"using an error correcting code to identify errors within a received message"
"means for detecting errors in the received message" (Claim 2; Term 75)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "detecting errors in the received message" Corresponding Structure: "display and storage logic section 1508, error correcting code; and equivalents thereof"	Indefinite

Dkt. No. 78, Ex. B at 22 & 24; Dkt. No. 121, Ex. A at 44.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"detecting errors in the received message" (Claims 2, 9; Term 69)	Plain meaning (Reject Defendants' proposal)

"means for detecting errors in the received message" (Claim 2; Term 75)	Function: "detecting errors in the received message" Corresponding Structure: "display and storage logic section 1508, error correcting code; and equivalents thereof"

(1) The Parties' Positions

As to "detecting errors in the received message," Plaintiff argues that "Defendants would improperly limit the term by importing limitations." Dkt. No. 99 at 10. As to the "means" term, Plaintiff argues that "the operation of this function is similar to the function of 'extracting a corrected message from the radio frequency signal,' which the Court previously found to have the corresponding structure of 'display and storage logic section 1508/1708, and an error correcting code; and equivalents thereof.'" *Id.* at 11.

Defendants respond that "the specification . . . exclusively discloses detection of errors by use of an error correcting code." Dkt. No. 115 at 24-25. As to the "means for detecting errors in the received message," Defendants argue that the patent "does not describe any structure within the mobile unit that performs the 'detecting' function, making this term indefinite." *Id.* at 27.

Plaintiff replies, as to the "means" term, that the specification links the claimed function to error correcting codes and to the "display and storage logic 1508," and "[n]o additional disclosure of an algorithm beyond reference to an 'error correcting code' is required." Dkt. No. 119 at 5.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

The specification discloses:

> In a conventional communication system, the transmitters transmit messages in blocks to a mobile unit, each block including an error correcting code. When a block is received by the mobile unit, the mobile unit uses the error correcting code to determine whether the block has been received correctly.

'946 Patent at 4:41-46. The specification thus adequately links the "error correcting code" to the claimed function in the means term. Also of note, the Court found a similar linkage to the "error correcting code" in *Amazon* as to the term "means for extracting a corrected message from the radio frequency signal," which appears in Claim 3 of the '946 Patent. *Amazon* at 20-25.

As to the non-means term, however, Defendants have not justified importing an error correcting code limitation from the disclosed embodiments. *See Phillips*, 415 F.3d at 1323. Therefore, the Court hereby expressly rejects Defendants' proposed construction. No further construction is necessary.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"detecting errors in the received message" (Claims 2, 9; Term 69)	**Plain meaning**
"means for detecting errors in the received message" (Claim 2; Term 75)	**Function:** **"detecting errors in the received message"** **Corresponding Structure:** **"display and storage logic section 1508, error correcting code; and equivalents thereof"**

M. Terms 72, 76-79

"means for receiving a radio frequency message from the network" (Claim 1; Term 72)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to § 112(6) Function: "receiving a radio frequency message from the network" Corresponding Structure: "receiver 1506, or receiver 1706; and equivalents thereof"	Function: "receiving a radio frequency message from the network" Structure: "mobile transceiver 1500 and 1600, including antenna 1502, receiver 1506, display and storage logic 1508 (programmed to perform the functions described at col. 14:66-15:5 and 15:66-16:37), annunciator 1510, display controls 1512, and display 1514"
"means for highlighting said errors when the message is displayed on said display" (Claim 2; Term 76)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "highlighting said errors when the message is displayed on said display" Corresponding Structure: "display and storage logic section 1508 and display 1606; and equivalents thereof"	Function: "highlighting said errors when the message is displayed on said display" Structure: "display and storage logic 1508 (programmed to display a message with erroneous portions underlined, placed in brackets, or printed in reverse video), and display 1514 (or 1606)"

"means for transmitting radio frequency signals containing a message to the mobile unit" (Claim 7; Term 77)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to § 112(6) In the alternative: Function: "transmitting radio frequency signals containing the portion of the message to the mobile unit" Corresponding Structure: "transmitters, including those on or part of base transmitter 612, base transmitter 614, base transmitter 1300; or base transmitter 1400; and equivalents thereof"	Function: "transmitting radio frequency signals containing a message to the mobile unit" Structure: "base transmitter 612, 614, 1300, or 1400, configured as described in col. 13:59-14:42 (illustrated in Figure 13 and 14), and equivalents"[6]

[6] Defendants previously proposed: "base transmitter 612 or 614, configured as described in col. 13:59-14:42 (illustrated in Figure 13 and 14), and equivalents." Dkt. No. 78, Ex. B at 24-25.

"means for retransmitting radio frequency signals containing the portion of the message to the mobile unit" (Claim 7; Term 78)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to § 112(6) In the alternative: Function: "retransmitting radio frequency signals containing the portion of the message to the mobile unit" Corresponding Structure: "transmitters, including those on or part of base transmitter 612, base transmitter 614, base transmitter 1300; or base transmitter 1400; and equivalents thereof"	Function: "retransmitting radio frequency signals containing the portion of the message to the mobile unit" Structure: "base transmitter 612, 614, 1300, or 1400, configured as described in col. 13:59-14:42 (illustrated in Figure 13 and 14), and equivalents"[7]

[7] Defendants previously proposed: "base transmitter 612 or 614, configured as described in col. 13:59-14:42 (illustrated in Figure 13 and 14), and equivalents." Dkt. No. 78, Ex. B at 25.

"means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" (Claim 7, Term 79)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to § 112(6) In the alternative: Function: "receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" Corresponding Structure: "receivers, including those on or part of a base receiver, see base receiver 628, base receiver 632; base receiver 634; base receiver 628;[8] and equivalents thereof"	Function: "receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" Structure: "base receiver 628, 630, 632, or 634, configured as described in col. 18:15-19:39 (illustrated in Figures 18(A), 18(B), and 19), and equivalents"

Dkt. No. 78, Ex. B at 22-23 & 24-26; Dkt. No. 121, Ex. A at 41-42, 44-45 & 46-48.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"means for receiving a radio frequency message from the network" (Claim 1; Term 72)	35 U.S.C. § 112, ¶ 6 applies. Function: "receiving a radio frequency message from the network" Corresponding Structure: "antenna 1502, transmit/receive switch 1504, receiver 1506; and equivalents thereof"

[8] Reference numeral 628 appears twice in Plaintiff's proposal.

"means for highlighting said errors when the message is displayed on said display" (Claim 2; Term 76)	Function: "highlighting said errors when the message is displayed on said display" Corresponding Structure: "display and storage logic 1508 (programmed to display a message with erroneous portions underlined, placed in brackets, or printed in reverse video), and display 1514 (or 1606)"
"means for transmitting radio frequency signals containing a message to the mobile unit" (Claim 7; Term 77)	35 U.S.C. § 112, ¶ 6 applies. Function: "transmitting radio frequency signals containing a message to the mobile unit" Corresponding Structure: "base transmitter 612, base transmitter 614, base transmitter 1300, or base transmitter 1400; and equivalents thereof"
"means for retransmitting radio frequency signals containing the portion of the message to the mobile unit" (Claim 7; Term 78)	35 U.S.C. § 112, ¶ 6 applies. Function: "retransmitting radio frequency signals containing the portion of the message to the mobile unit" Corresponding Structure: "base transmitter 612, base transmitter 614, base transmitter 1300, or base transmitter 1400; and equivalents thereof"

"means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" (Claim 7, Term 79)	35 U.S.C. § 112, ¶ 6 applies. Function: "receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" Corresponding Structure: "base receiver 628, base receiver 630, base receiver 632, base receiver 634, 'analog base receiver' (Fig. 18(A)), or 'digital base receiver' (Fig. 18(B) & Fig. 19); and equivalents thereof"

(1) The Parties' Positions

Plaintiff argues that Defendants' proposals improperly limit the terms to particular disclosed embodiments because "Defendants seek to limit the scope of the claim by requiring that structure be 'configured as,' or 'operate as described,' or 'programmed to perform.'" Dkt. No. 99 at 11.

Defendants respond that for the "'means for receiving a radio frequency message from the network' (term 72)," the corresponding structure must include an antenna and also display and storage logic that is programmed as set forth in the specification. Dkt. No. 115 at 25-26.

As to the "means for transmitting . . ." (Terms 77 and 78), Defendants argue that "Defendants' identification of base transmitter 612, 614, 1300, or 1400 is consistent with past constructions adopted by this Court, and with which [Plaintiff] agreed." Dkt. No. 115 at 26-27 (citing *Sprint* at 25-32; *Amazon* at 62-63 & *Blackberry* at 53-54).

As to the "means for receiving . . ." (Term 79), Defendants argue that "Defendants' identification of base receivers 628, 630, 632, or 634 is consistent with past constructions adopted by this Court, and with which [Plaintiff] agreed." Dkt. No. 115 at 27 (citing *Sprint* at 25-32, *Amazon* at 62-63 & *Blackberry* at 53-54).

As to the "means for highlighting . . ." (Term 76), Defendants argue that "[u]nderlining, placing in brackets, and printing in reverse video are the only forms of 'highlighting' disclosed in the '946 patent, and thus provide the only arguable structure for this term." Dkt. No. 115 at 28.

Plaintiff replies, as to the "means for receiving a radio frequency message from the network," that "[t]he additional structure Defendants propose is not necessary to perform that function." Dkt. No. 119 at 5. As to the "means for highlighting . . .," Plaintiff replies that "Defendants' construction does not clarify the structure used, but rather limits the scope of the function that is being performed to three specific examples provided in the specification." *Id.*

As to each of the "means for transmitting . . .," "means for retransmitting . . .," and "means for receiving, from the mobile unit . . .," Plaintiff replies that "Defendants' requested construction . . . attempts to limit the scope of the claim to a specific configuration of the identified structure when that configuration does not correspond to the claimed function." Dkt. No. 119 at 6.

At the December 2, 2016 hearing, Defendants were amenable to the Court's constructions omitting the column and line numbers proposed by Defendants, with the understanding that the corresponding structures are as those structures are described in the specification.

(2) Analysis

(a) "means for receiving a radio frequency message from the network" (Claim 1; Term 72)

As a threshold matter, Plaintiff has failed to overcome the presumption that this "means" term is subject to 35 U.S.C. § 112, ¶ 6. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). Also, the parties agree upon the claimed function.

As to corresponding structure, the specification discloses: "the mobile transceiver 1500 includes an antenna 1502 which is connected to a transmit/receive switch 1504 to switch the

antenna between the transmit and receive sections of the mobile transceiver 1500. A receiver 1506 is provided to receive the messages from the base transmitter." '946 Patent at 14:52-57. The display and storage logic 1508, annunciator 1510, display controls 1512, and display 1514 proposed by Defendants, while perhaps appropriate for the system to fully operate, are not necessary for performing the "receiving" function here at issue. *See, e.g., Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1371 (Fed. Cir. 2001) ("The corresponding structure to a function set forth in a means-plus-function limitation must actually perform the recited function, not merely enable the pertinent structure to operate as intended.").

(b) "means for highlighting said errors when the message is displayed on said display" (Claim 2; Term 76)

The specification discloses:

> When the mobile unit receives a message containing errors, it displays the message on display 1606 with the erroneous portions highlighted (e.g., underlined, placed in brackets, or printed in reverse video).

'946 Patent at 17:10-14. Although Plaintiff submits that underlining, brackets, and reverse video are merely examples, corresponding structure is necessarily limited to the particular embodiments disclosed in the specification. *See Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1119 (Fed. Cir. 2002) ("corresponding structure must include all structure that actually performs the recited function").

(c) "means for transmitting radio frequency signals containing a message to the mobile unit" (Claim 7; Term 77)

As a threshold matter, Plaintiff has failed to overcome the presumption that this "means" term is subject to 35 U.S.C. § 112, ¶ 6. *See Williamson*, 792 F.3d at 1348. As to the claimed function, Plaintiff has not justified referring to merely a "portion" of a message. As to the corresponding structure, Defendants' proposed reference to column and line numbers is

unnecessary because the corresponding base transmitters, which are identified by reference numerals, are necessarily the particular base transmitters disclosed in the specification.

(d) "means for retransmitting radio frequency signals containing the portion of the message to the mobile unit" (Claim 7; Term 78)

As a threshold matter, Plaintiff has failed to overcome the presumption that this "means" term is subject to 35 U.S.C. § 112, ¶ 6. *See Williamson*, 792 F.3d at 1348. Also, the parties agree upon the claimed function. As to the corresponding structure, Defendants' proposed reference to column and line numbers is unnecessary because the corresponding base transmitters, which are identified by reference numerals, are necessarily the particular base transmitters disclosed in the specification.

(e) "means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" (Claim 7, Term 79)

As a threshold matter, Plaintiff has failed to overcome the presumption that this "means" term is subject to 35 U.S.C. § 112, ¶ 6. *See Williamson*, 792 F.3d at 1348. Also, the parties agree upon the claimed function. As to the corresponding structure, the specification discloses:

> By pressing button 1622, the user causes the transmit logic 1518 to transmit a signal to the base receivers indicating that the user wishes the message or a partial message to be retransmitted. The base transmitters then retransmit the message to the mobile unit at an appropriate time.

'946 Patent at 17:17-23. The specification discloses base receiver 628, base receiver 630, base receiver 632, base receiver 634, "analog base receiver" (Fig. 18(A)), and "digital base receiver" (Fig. 18(B) & Fig. 19). Defendants' proposed reference to column and line numbers is unnecessary because the corresponding base receivers are necessarily the particular base receivers disclosed in the specification.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"means for receiving a radio frequency message from the network" (Claim 1; Term 72)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"receiving a radio frequency message from the network"** **Corresponding Structure:** **"antenna 1502, transmit/receive switch 1504, and receiver 1506; and equivalents thereof"**
"means for highlighting said errors when the message is displayed on said display" (Claim 2; Term 76)	**Function:** **"highlighting said errors when the message is displayed on said display"** **Corresponding Structure:** **"display and storage logic 1508 (programmed to display a message with erroneous portions underlined, placed in brackets, or printed in reverse video), and display 1514 (or 1606); and equivalents thereof"**
"means for transmitting radio frequency signals containing a message to the mobile unit" (Claim 7; Term 77)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"transmitting radio frequency signals containing a message to the mobile unit"** **Corresponding Structure:** **"base transmitter 612, base transmitter 614, base transmitter 1300, or base transmitter 1400; and equivalents thereof"**

"means for retransmitting radio frequency signals containing the portion of the message to the mobile unit" (Claim 7; Term 78)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"retransmitting radio frequency signals containing the portion of the message to the mobile unit"** **Corresponding Structure:** **"base transmitter 612, base transmitter 614, base transmitter 1300, or base transmitter 1400; and equivalents thereof"**
"means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission" (Claim 7, Term 79)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission"** **Corresponding Structure:** **"base receiver 628, base receiver 630, base receiver 632, base receiver 634, 'analog base receiver' (Fig. 18(A)), or 'digital base receiver' (Fig. 18(B) & Fig. 19); and equivalents thereof"**

VI. CONSTRUCTION OF DISPUTED TERMS IN U.S. PAT. NO. 5,894,506

Plaintiff notes that the Court has construed terms in the '506 Patent on three prior occasions. Dkt. No. 99 at 12.

N. "canned message," "message code," "message code form," and Related Terms, and Order of Steps (Terms 21, 22, 26, 29, 35, 36, 37, 38, 39)

"canned message" (Claims 1-11, 13, 15-21; Term 21)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"predefined sequence of characters, which may be represented visually"	"a predefined phrase"

"message code" and "message code form" (Claims 1, 4-6, 8, 10-12, 15, 16, 19-21; Term 22)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"representation of a canned message that requires less data to transmit than the non-coded form of the message"
"determining whether the second terminal can receive the canned message in a text form or message code form" (Claims 1, 15; Term 25)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"deciding whether the second terminal is capable of receiving the canned message in a text form but not message code form, or alternatively is capable of receiving the canned message in message code form"
"selecting an appropriate canned message from the second file for transmission to the second terminal" (Claim 8; Term 26)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	Indefinite
Order of Steps in Claims 1-14 (Term 29)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"the steps may be performed in any order"	"Maintaining" steps must occur prior to subsequent steps, which must be performed in the recited order.

"means for retrieving the file of canned messages and the file of canned multiple response options from the memory" (Claim 19; Term 35)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "retrieving the file of canned messages and the file of canned multiple response options from the memory" Corresponding Structure: "CPU 110, ROM 112 (including stored application program for controlling terminal operation) and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof"	Indefinite
"means for retrieving the file of canned messages and message codes from the memory" (Claim 21; Term 36)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "retrieving the file of canned messages and message codes from the memory" Corresponding Structure: "CPU 110, ROM 112 (including stored application program for controlling terminal operation), and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof"	Indefinite

"means for selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communications to a designated other message terminal" (Claim 19; Term 37)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal" Corresponding Structure: "terminal keypad 126; or a mouse; or a cursor; and equivalents thereof"	Indefinite
"means for selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message" (Claim 21; Term 38)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message" Corresponding Structure: "terminal keypad 126; or a mouse; or a cursor; and equivalents thereof"	Indefinite

"means for adding parameters to the selected canned messages for inclusion with the assigned message code transmitted over the communications link" (Claim 20; Term 39)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "adding parameters to the selected canned messages for inclusion with the assigned message code transmitted over the communications link" Corresponding Structure: "terminal keypad 126; or a keypad; and equivalents thereof"	Function: "adding parameters to the selected canned message for inclusion with the assigned message code transmitted over the communications link" Structure: "terminal keypad 126, CPU 110, ROM 112 (including stored application program for controlling terminal operation as described at col. 3:59-4:32), and system bus 130, and equivalents thereof"

Dkt. No. 78, Ex. B at 8-9 & 12-14; Dkt. No. 121, Ex. A at 11-12, 15 & 26-30.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"canned message" (Claims 1-11, 13, 15-21; Term 21)	"predefined sequence of characters"
"message code" and "message code form" (Claims 1, 4-6, 8, 10-12, 15, 16, 19-21; Term 22)	Plain meaning (Reject Defendants' proposal of necessarily requiring less data to transmit)
"determining whether the second terminal can receive the canned message in a text form or message code form" (Claims 1, 15; Term 25)	"determining whether the second terminal is capable of receiving the canned message in a text form but not in message code form or, alternatively, is capable of receiving the canned message in message code form"
"selecting an appropriate canned message from the second file for transmission to the second terminal" (Claim 8; Term 26)	Plain meaning apart from construction of the constituent term "canned message," which is addressed separately above.

Order of Steps in Claims 1-14 (Term 29)	The steps of Claim 1 must be performed in the order recited. The steps of Claim 8 must be performed in the order recited except that the third "maintaining" step could be performed either before or after the second "maintaining" step. (Defendants have not made any specific showing as to dependent Claims 2-7 or dependent Claims 9-14)
"means for retrieving the file of canned messages and the file of canned multiple response options from the memory" (Claim 19; Term 35)	Function: "retrieving the file of canned messages and the file of canned multiple response options from the memory" Corresponding Structure: "CPU 110, ROM 112 (including stored application program for controlling terminal operation) and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof"
"means for retrieving the file of canned messages and message codes from the memory" (Claim 21; Term 36)	Function: "retrieving the file of canned messages and message codes from the memory" Corresponding Structure: "CPU 110, ROM 112 (including stored application program for controlling terminal operation), and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof"

"means for selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal" (Claim 19; Term 37)	Function: "selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal" Corresponding Structure: "terminal keypad 126, or a mouse, or a cursor; and equivalents thereof"
"means for selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message" (Claim 21; Term 38)	Function: "selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message" Corresponding Structure: "terminal keypad 126, or a mouse, or a cursor; and equivalents thereof"
"means for adding parameters to the selected canned messages for inclusion with the assigned message code transmitted over the communications link" (Claim 20; Term 39)	Function: "adding parameters to the selected canned message for inclusion with the assigned message code transmitted over the communications link" Corresponding Structure: "terminal keypad 126 and terminal 10; and equivalents thereof"

(1) The Parties' Positions

Plaintiff argues that "[s]tare decisis controls the construction of Terms 22, 26, 35, 36, 37, 38, and 39." Dkt. No. 99 at 13. As to Term 21, "canned message," Plaintiff argues that its proposal "clarifies the meaning of 'character' and is consistent with this Court's prior holdings." *Id.*

Defendants respond that their proposal for "canned messages" "is consistent with the patent's description of these messages as 'commonly used phrases . . . that can be replaced by short message codes.'" Dkt. No. 115 at 10 (citing '506 Patent at 1:46-49).

As to the "message code" terms, Defendants argue that a coded version must require less data than a non-coded version, which Defendants submit is "consistent with the described 'principle object' of the invention: conservation of communications link capacity 'by transmitting certain messages with an improved degree of message compression.'" Dkt. No. 115 at 10 (citing '506 Patent at 1:38-49).[9]

As to the "determining . . ." term, Defendants argue that construction is necessary because "merely confirming whether a device can receive messages in text form, without consideration of whether it can receive messages in code form, or vice versa, would not be sufficient." Dkt. No. 115 at 11.

As to the steps in Claims 1-14, Defendants argue that files must be maintained before messages can be selected or retrieved from those files, and "the internal logic of the . . . steps requires performance in the written order." *Id.* at 30.

As to the terms that recite selecting an "appropriate" option, Defendants argue that "[t]he '506 patent does not provide any guideline as to what is 'appropriate' in the context of the invention." *Id.* at 11.

As to the "means for adding parameters . . .," Defendants argue that their proposed structure is appropriate "since this is a computer-implemented structure." *Id.* at 13.

[9] Defendants have also cited inventor testimony. *See* Dkt. No. 115 at 11. Such testimony is of little, if any, relevance in these claim construction proceedings. *See Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1346-47 (Fed. Cir. 2008) (noting that inventor testimony is "limited by the fact that an inventor understands the invention but may not understand the claims, which are typically drafted by the attorney prosecuting the patent application").

Plaintiff replies that Defendants have not demonstrated that any construction is necessary for the "message code" terms. Dkt. No. 119 at 6. As to "canned message," Plaintiff replies that "[Plaintiff's] construction merely clarifies dicta in the Court's most recent handling of this term, wherein the Court noted that 'a 'message' can include parts that are not viewed by a user.'" *Id.* (quoting *LG* at 38). As to "selecting an appropriate canned message," Plaintiff argues that "[t]he subjective desire of the user is, itself, not a limitation." Dkt. No. 119 at 7. Further, Plaintiff argues that "retrieving" can be performed by any general-purpose computer without special programming. *Id.* at 7. Finally, as to the "means for adding parameters . . .," Plaintiff submits that "[t]his Court has also previously resolved the parties' dispute regarding Term 39 and should again hold that the term has the construction provided in *LG*." Dkt. No. 119 at 7 n.2 (citing *LG* at 46-47).

As to the order of steps (Term 29), Plaintiff argues that "Defendants . . . conflate 'maintaining' with 'storing' in Term 29. The former is dynamic and can occur before, during, and after the remaining steps." Dkt. No. 119 at 10.

At the December 2, 2016 hearing, the parties presented oral argument only as to "determining whether the second terminal can receive the canned message in a text form or message code form."

(2) Analysis

(a) "canned message" (Claims 1-11, 13, 15-21; Term 21)

Defendants have not justified departing from the Court's prior analysis in *Sprint* and *LG* that "canned message" means "predefined sequence of characters." *See Sprint* at 65-71; *see also LG* at 36-38. For example, Defendants have cited the *Blackberry* construction of this term as

meaning "a predefined phrase," but *Blackberry* addressed a different dispute, and neither side in *Blackberry* proposed the *Sprint* construction. *See Blackberry*, Ex. A at 25-27.

(b) "message code" and "message code form" (Claims 1, 4-6, 8, 10-12, 15, 16, 19-21; Term 22)

Defendants argue that the construction should require using less data than a non-coded form because the objective of the claimed invention is to conserve communications link capacity. Dkt. No. 115 at 10. Although Defendants cite *Praxair, Inc. v. ATMI, Inc.* for the proposition that constructions should be consistent with the "overall object of the invention," 543 F.3d 1306, 1324 (Fed. Cir. 2008), Defendants have not demonstrated that necessarily using less data is the overall object of the invention. *See id.* at 1325 ("it is generally not appropriate to limit claim language to exclude particular devices because they do not serve a perceived purpose of the invention") (citation and internal quotation marks omitted); *see also Liebel-Flarsheim*, 358 F.3d at 908 ("The fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives.").

Therefore, the Court hereby expressly rejects Defendants' proposed construction. No further construction is necessary.

(c) "determining whether the second terminal can receive the canned message in a text form or message code form" (Claims 1, 15; Term 25)

Construction is appropriate because this term could be misinterpreted as meaning determining merely whether the second terminal can receive the canned message in one or both of a text form or a message code form (without any determination as to *which* form or forms can be received). Claim 1 of the '506 Patent, for example, also recites: "communicating the selected canned message to the second terminal in either message code form or text code form in

response to the determination." This context thus confirms that the "determining" step involves determining *which* form can be received. Also, the specification is consistent with this interpretation. *See* '506 Patent at 6:7-11.

At the December 2, 2016 hearing, Plaintiff expressed concern that Defendants' proposed construction, as well as the Court's preliminary construction, might improperly require *two* determinations. The Court construes this disputed term with an understanding that this term requires only *one* determination, namely as to whether *either* the second terminal is capable of receiving in text form but not message code form *or* the second terminal is capable of receiving in message form.

(d) "selecting an appropriate canned message from the second file for transmission to the second terminal" (Claim 8; Term 26)

For the same reasons set forth in *LG*, the Court hereby expressly rejects Defendants' indefiniteness arguments. *See LG* at 38-42. Of particular note, the Court explained in LG:

> Here, the above-quoted context of the claim demonstrates that the scope of the claim does not turn on subjective opinion. That is, the claim does *not* recite that the particular desire of a user has any impact on the operation of the claimed invention (other than simply determining which of several possible messages will be transmitted). In other words, although the subjective desire of the user may determine the content of the message that is transmitted, the particular content of a transmitted message has no relevant effect on the manner of operation of the claimed invention. Thus, although an expression of the subjective desire of a user may be a necessary input, that subjective desire is not itself a limitation. As a result, the word "appropriate" does *not* render the claim scope subjective.

LG at 41. Therefore, no further construction is necessary.

(e) Order of Steps in Claims 1-14 (Term 29)

Defendants have presented particularized arguments only as to independent Claims 1 and 8. The Court therefore does not address dependent Claims 2-7 and 9-14.

In Claim 1: "the first file" in the second "maintaining" step refers to "a first file" in the first "maintaining" step; "the second file" in the "selecting" step refers to "a second file" in the second "maintaining" step; "the selected canned message" in the "sending" step refers to the "selecting an appropriate canned message" step; "the message code received from the first terminal" in the "retrieving" step refers to the message code sent in the "sending" step; "the canned message" in the "determining" step refers to "the selected canned message' in the "retrieving" step"; and "the determination" in the "communicating" step refers to the "determining" step. Thus, as a "matter of logic and grammar," the steps of Claim 1 must be performed in the order recited. *Altiris*, 318 F.3d at 1369; *see Mformation*, 764 F.3d at 1400.

A substantially similar analysis applies to Claim 8 except that no limitation is apparent as to whether the third "maintaining" step could be performed before or after the second "maintaining" step.

> (f) "means for retrieving the file of canned messages and the file of canned multiple response options from the memory" (Claim 19; Term 35)

For the same reasons set forth in *LG*, the Court hereby expressly rejects Defendants' indefiniteness arguments. *See LG* at 42-45.

> (g) "means for retrieving the file of canned messages and message codes from the memory" (Claim 21; Term 36)

Defendants have not shown that the corresponding structure for this term should be any different than for the similar term in Claim 19 (Term 35).

> (h) "means for selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal" (Claim 19; Term 37)

Plaintiff proposes the *LG* construction that the Court preliminarily proposed (and that the parties agreed upon) in *LG*. *See LG* at 46-47.

The specification discloses selecting by using a terminal keypad, a mouse, or a cursor:

> A *terminal keypad 126* is used by the calling party to designate a receiving party (typically by phone number), to retrieve canned message/response options/parameter files from RAM 114, to scroll through the displayed files, and to *select the canned message/response options/parameter(s)* appropriate for sending to the receiving party.

'506 Patent at 7:60-66 (emphasis added); *see id.* at 3:54-56 ("If an appropriate canned message is noted, the calling party *selects* this canned message . . . using suitable pointing means, such as a mouse, cursor, etc.") (emphasis added); *see also id.* at 3:63-66 ("The calling terminal 10 compiles the retrieved message code associated with the selected canned message with an appropriate indicator code, calling and receiving terminal addresses, and added parameters, if any . . . .").

Thus, the "terminal keypad 126," "mouse," and "cursor" are disclosed as structures "clearly linked or associated with the claimed function." *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1219 (Fed. Cir. 2003). Because the specification links the claimed function to such structures rather than to a general-purpose computer, no algorithm is required. *See, e.g., Net MoneyIN Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008); *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999).

On balance, Defendants have failed to adequately support their assertion of indefiniteness, which the Court hereby expressly rejects.

> (i) "means for selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message" (Claim 21; Term 38)

Defendants have not shown that the corresponding structure for this term should be any different than for the similar term in Claim 19 (Term 37).

(j) "means for adding parameters to the selected canned messages for inclusion with the assigned message code transmitted over the communications link" (Claim 20; Term 39)

The specification discloses:

> If the selected canned message calls for the inclusion of a parameter(s), such as, for example, time, date, phone number, etc., the calling party enters a desired parameter(s), using an appropriate entry device, such as a keypad (step 30). The calling terminal 10 compiles the retrieved message code associated with the selected canned message with an appropriate indicator code, calling and receiving terminal addresses, and added parameters, if any (step 32).

'506 Patent at 3:59-66. Thus, the structures disclosed as necessary for performing the claimed function are the keypad and the terminal 10. No algorithm is required because the "adding" is analogous to functions that *Katz* found can be performed by any general-purpose computer without special programming. *See In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) ("Absent a possible narrower construction of the terms 'processing,' 'receiving,' and 'storing,' discussed below, those functions can be achieved by any general purpose computer without special programming."). Alternatively, even if this disputed term were deemed to require an algorithm, the above-quoted disclosure sets forth a sufficient algorithm of "compil[ing]." '506 Patent at 3:59-66.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"canned message" (Claims 1-11, 13, 15-21; Term 21)	**"predefined sequence of characters"**
"message code" and "message code form" (Claims 1, 4-6, 8, 10-12, 15, 16, 19-21; Term 22)	**Plain meaning**

"determining whether the second terminal can receive the canned message in a text form or message code form" (Claims 1, 15; Term 25)	**"determining whether the second terminal is capable of receiving the canned message in a text form but not in message code form or, alternatively, is capable of receiving the canned message in message code form"**
"selecting an appropriate canned message form the second file for transmission to the second terminal" (Claim 8; Term 26)	**Plain meaning apart from construction of the constituent term "canned message," which is addressed separately above.**
Order of Steps in Claims 1-14 (Term 29)	**The steps of Claim 1 must be performed in the order recited.** **The steps of Claim 8 must be performed in the order recited except that the third "maintaining" step could be performed either before or after the second "maintaining" step.**
"means for retrieving the file of canned messages and the file of canned multiple response options from the memory" (Claim 19; Term 35)	**Function:** **"retrieving the file of canned messages and the file of canned multiple response options from the memory"** **Corresponding Structure:** **"CPU 110, ROM 112 (including stored application program for controlling terminal operation) and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof"**
"means for retrieving the file of canned messages and message codes from the memory" (Claim 21; Term 36)	**Function:** **"retrieving the file of canned messages and message codes from the memory"** **Corresponding Structure:** **"CPU 110, ROM 112 (including stored application program for controlling terminal operation), and system bus 130 (which interconnects system components such as CPU 110, ROM 112, and RAM 114); and equivalents thereof"**

"means for selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal" (Claim 19; Term 37)	**Function:** **"selecting one of the canned messages and at least one of the multiple response options appropriate for the selected canned message for communication to a designated other message terminal"** **Corresponding Structure:** **"terminal keypad 126, or a mouse, or a cursor; and equivalents thereof"**
"means for selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message" (Claim 21; Term 38)	**Function:** **"selecting one of the canned messages for communication to a designated other message terminal and for selecting multiple response options appropriate for the selected canned message"** **Corresponding Structure:** **"terminal keypad 126, or a mouse, or a cursor; and equivalents thereof"**
"means for adding parameters to the selected canned messages for inclusion with the assigned message code transmitted over the communications link" (Claim 20; Term 39)	**Function:** **"adding parameters to the selected canned message for inclusion with the assigned message code transmitted over the communications link"** **Corresponding Structure:** **"terminal keypad 126 and terminal 10; and equivalents thereof"**

O. "a receiver for receiving . . ." and "a transmitter for transmitting . . ." Terms (Terms 40-43)

"a receiver for receiving a message code from a calling terminal included in the network" (Claim 15; Term 40)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "receiving a message code from a calling terminal included in the network" Corresponding Structure: "receiver 138; and equivalents thereof"	Indefinite
"a transmitter for transmitting the retrieved canned message in text form or message code form in response to the determining means" (Claim 15; Term 41)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "transmitting the retrieved canned message in text form or message code form in response to the determining means" Corresponding Structure: "transmitter 136; and equivalents thereof"	Indefinite

"a transmitter for transmitting the message code assigned to the selected canned message and the response code assigned to the at least one multiple response options over a communications link of the network" (Claim 19; Term 42)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "transmitting the retrieved canned message in text form or message code form in response to the determining means"[10] Corresponding Structure: "transmitter 120; and equivalents thereof"	Indefinite
"a transmitter for transmitting the message code assigned to the selected canned message over a communications link of the network" (Claim 21; Term 43)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "transmitting the message code assigned to the selected canned message over a communications link of the network" Corresponding Structure: "transmitter 120; and equivalents thereof"	Indefinite

Dkt. No. 78, Ex. B at 14-15; Dkt. No. 121, Ex. A at 23-24 & 27-28.

[10] Plaintiff's proposal of the same function for Term 42 as for Term 41 appears to be an error.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction:

Term	Preliminary Construction
"a receiver for receiving a message code from a calling terminal included in the network" (Claim 15; Term 40)	Plain meaning (35 U.S.C. § 112, ¶ 6 does not apply)
"a transmitter for transmitting the retrieved canned message in text form or message code form in response to the determining means" (Claim 15; Term 41)	Plain meaning (35 U.S.C. § 112, ¶ 6 does not apply)
"a transmitter for transmitting the message code assigned to the selected canned message and the response code assigned to the at least one multiple response options over a communications link of the network" (Claim 19; Term 42)	Plain meaning (35 U.S.C. § 112, ¶ 6 does not apply)
"a transmitter for transmitting the message code assigned to the selected canned message over a communications link of the network" (Claim 21; Term 43)	Plain meaning (35 U.S.C. § 112, ¶ 6 does not apply)

(1) The Parties' Positions

Plaintiff argues that "these terms are not governed by 35 U.S.C. § 112, ¶ 6 because each term either does not invoke the presumption that § 112, ¶ 6 applies, or because the term recites sufficient structure for performing the claimed function." Dkt. No. 99 at 13. Plaintiff also argues that Defendants "impermissibly ignore[] consideration of the knowledge of one skilled in the art." *Id.* Alternatively, Plaintiff argues that "[e]ach structure [Plaintiff] identifies, however, is clearly linked with the corresponding function." *Id.* at 14.

Defendants argue that these are means-plus-function terms because "[i]n the context of the claims, 'receiver' and 'transmitter' are used as nonce words without structure to generically

describe any hardware or software that performs the function of 'receiving' or 'transmitting.'" Dkt. No. 115 at 13.

Plaintiff replies that "Defendants justify their claim of indefiniteness only by ignoring that a person of ordinary skill would recognize the disclosure of 'a transmitter for transmitting' (Terms 41-43) and 'a receiver for receiving' (Term 40) as the known structure for a 'transmitter' and 'receiver,' respectively." Dkt. No. 119 at 8.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

"[T]he failure to use the word 'means' . . . creates a rebuttable presumption . . . that § 112, para. 6 does not apply." *Williamson*, 792 F.3d at 1348 (citations and internal quotation marks omitted). "When a claim term lacks the word 'means,' the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Id.* at 1349 (citations and internal quotation marks omitted).

Williamson, in an *en banc* portion of the decision, abrogated prior statements that the absence of the word "means" gives rise to a "strong" presumption against means-plus-function treatment. *Id.* (citation omitted). *Williamson* also abrogated prior statements that this presumption "is not readily overcome" and that this presumption cannot be overcome "without a showing that the limitation essentially is devoid of anything that can be construed as structure." *Id.* (citations omitted). Instead, *Williamson* found, "[h]enceforth, we will apply the presumption as we have done prior to *Lighting World . . .* ." *Id.* (citing *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004)). In a subsequent part of the decision not

considered *en banc*, *Williamson* affirmed the district court's finding that the term "distributed learning control module" was a means-plus-function term that was indefinite because of lack of corresponding structure, and in so doing *Williamson* stated that "'module' is a well-known nonce word." 792 F.3d at 1350.

Here, "receiver" and "transmitter" are not "nonce" terms (*see id.*) but rather connote classes of structures. Also, surrounding claim language provides context as to the "inputs and outputs" and how a "receiver" or "transmitter" "interacts with other components . . . in a way that . . . inform[s] the structural character of the limitation-in-question or otherwise impart[s] structure." *Id.* at 1351.

In so finding, the Court applies long-standing principles articulated prior to the abrogated *Lighting World* decision. *See, e.g., Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004) ("when the structure-connoting term 'circuit' is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of ordinary skill in the art, and § 112 ¶ 6 presumptively will not apply"; noting "language reciting [the circuits'] respective objectives or operations"); *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003) ("While we do not find it necessary to hold that the term 'circuit' by itself always connotes sufficient structure, the term 'circuit' with an appropriate identifier such as 'interface,' 'programming' and 'logic,' certainly identifies some structural meaning to one of ordinary skill in the art."); *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed. Cir. 1998) ("Even though the term 'detector' does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as 'detectors.' We therefore conclude that the term 'detector' is a sufficiently definite structural term to preclude the application of § 112, ¶ 6."); *Greenberg v.*

Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed. Cir. 1996) (finding that "detent mechanism" was not a means-plus-function term because it denotes a type of device with a generally understood meaning in the mechanical arts).[11]

Therefore, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"a receiver for receiving a message code from a calling terminal included in the network" (Claim 15; Term 40)	**Plain meaning** **(35 U.S.C. § 112, ¶ 6 does not apply)**
"a transmitter for transmitting the retrieved canned message in text form or message code form in response to the determining means" (Claim 15; Term 41)	**Plain meaning** **(35 U.S.C. § 112, ¶ 6 does not apply)**
"a transmitter for transmitting the message code assigned to the selected canned message and the response code assigned to the at least one multiple response options over a communications link of the network" (Claim 19; Term 42)	**Plain meaning** **(35 U.S.C. § 112, ¶ 6 does not apply)**
"a transmitter for transmitting the message code assigned to the selected canned message over a communications link of the network" (Claim 21; Term 43)	**Plain meaning** **(35 U.S.C. § 112, ¶ 6 does not apply)**

[11] *Greenberg*, 91 F.3d at 1583 ("'detent' denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms"); *id.* ("It is true that the term 'detent' does not call to mind a single well-defined structure, but the same could be said of other commonplace structural terms such as 'clamp' or 'container.' What is important is not simply that a 'detent' or 'detent mechanism' is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art.")

P. "means responsive to the received message code for retrieving from the memory the canned message assigned thereto" (Term 30)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "retrieving from the memory the canned message assigned to the received message code" Corresponding Structure: "CPU 131, ROM 139, RAM 140, memory 142; and equivalents thereof. No algorithm is required. To the extent an algorithm is required, one is provided at col. 5, l. 45 – col. 6, l. 24"[12]	Indefinite

Dkt. No. 78, Ex. B at 9-10; Dkt. No. 121, Ex. A at 21-22. The parties submit that this term appears in Claim 15 of the '506 Patent. Dkt. No. 78, Ex. B at 9; Dkt. No. 121, Ex. A at 21.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "35 U.S.C. § 112, ¶ 6 applies. / Function: 'retrieving from the memory the canned message assigned to the received message code' / Corresponding Structure: 'NOC [network operation center] 12 and memory 142; and equivalents thereof.'"

(1) The Parties' Positions

Plaintiff argues that "NOC 12" performs the retrieving functions. Dkt. No. 99 at 15. Plaintiff also argues that no algorithm is required because no special programming is necessary. *Id.* at 16. Alternatively, Plaintiff submits that the specification discloses a sufficient algorithm. *Id.* at 16-17.

Defendants respond that "[t]he *Katz* exception [to the algorithm requirement] does not apply as [Plaintiff] asserts, however, because the claimed functions are not generic computer

[12] Plaintiff previously proposed: ". . . col. 6, ll. 15-21." Dkt. No. 78, Ex. B at 10.

functions." Dkt. No. 115 at 12. Further, Defendants argue, "[w]here [Plaintiff] does identify a relevant disclosure, it merely mimics the claimed function, and does not describe an algorithm for carrying out that function." *Id.*

Plaintiff replies that "retrieving" can be performed by any general-purpose computer without special programming. Dkt. No. 119 at 7.

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(2) Analysis

The parties appear to agree that 35 U.S.C. § 112, ¶ 6 applies, and the parties have not presented any dispute as to the claimed function.

As to corresponding structure, the specification discloses:

> . . . NOC 12 determines whether the designated receiving party terminal can accept the canned message in code form, i.e., as received from the sending party terminal, or whether the canned message must be transmitted in full text to the receiving party terminal (step 56). If the designated receiving terminal can accept canned message/response option codes, they are transmitted to the designated receiving party terminal in the same form as received from the sending party terminal (step 58). If the designated receiving party terminal is not equipped to process canned message/response option codes, NOC 12 uses the canned message/response option codes received from the calling party terminal 10 to retrieve from the appropriate file(s) the text of the associated canned message and multiple response options, if any, from a memory (step 60). The text of the canned message and response options, together with parameters, is then transmitted in standard message code format by NOC 12 to the receiving terminal (step 58).

'506 Patent at 6:7-21. The specification thus links the "NOC 12" and "memory" to the claimed function. The NOC 12 is computer-implemented (*see id.* at 8:6-12), but no algorithm is required because the *Katz* exception applies. *See* 639 F.3d at 1316. Specifically, the claimed function of retrieving a canned message from memory is analogous to the "storing" function that *Katz* found "can be achieved by any general purpose computer without special programming." *Id.*

Therefore, the Court hereby finds that **"means responsive to the received message code for retrieving from the memory the canned message assigned thereto"** is a means-plus-function term, the claimed function is **"retrieving from the memory the canned message assigned to the received message code,"** and the corresponding structure is **"NOC 12 and memory 142; and equivalents thereof."**

Q. "means for determining whether a receiving terminal in the network can receive the canned message in text form or in message code form" (Term 31)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "determining whether a receiving terminal in the network can retrieve the canned message in text form or in message code form" Corresponding Structure: "CPU 131, ROM 139, RAM 140, memory 142; and equivalents thereof, configured to perform the algorithm provided at Fig. 3 and elaborated at col. 5, ll. 49-53 and col. 6, ll. 7-12"	Indefinite

Dkt. No. 78, Ex. B at 10; Dkt. No. 121, Ex. A at 22. The parties submit that this term appears in Claim 15 of the '506 Patent. Dkt. No. 78, Ex. B at 10.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "35 U.S.C. § 112, ¶ 6 applies. / Function: 'determining whether a receiving terminal in the network can retrieve the canned message in text form or in message code form' / Corresponding Structure: 'NOC 12 and memory, configured to performed [*sic*] the algorithm disclosed in the '506 Patent at 5:49-56 and 6:7-12; and equivalents thereof.'"

(1) The Parties' Positions

Plaintiff argues that "NOC 12" performs the retrieving functions. Dkt. No. 99 at 17. Plaintiff submits that the specification discloses a sufficient algorithm. *Id.* at 17-18.

Defendants argue this term together with the "means responsive . . ." term addressed above. *See* Dkt. No. 115 at 11-12.

Plaintiff replies that the disclosure it cites "describes an algorithm involving the steps of identifying the identifies of the terminals, storing said identities in memory, retrieving the files from RAM 140, and comparing the information with the records of the stored identities." Dkt. No. 119 at 8.

At the December 2, 2016 hearing, Defendants argued that the disclosures cited by Plaintiff merely restate the claimed function.

(2) Analysis

The parties appear to agree that 35 U.S.C. § 112, ¶ 6 applies, and the parties have not presented any dispute as to the claimed function.

The specification discloses: determining "the identities of the calling and receiving terminals"; "[t]hese determinations are stored in memory"; and "[f]rom the identity of the receiving terminal 14, NOC 12 determines if receiving terminal 14 is capable of accepting this particular canned message/response option." '506 Patent at 5:49-56; *see id.* at 6:7-12. The Court rejects Defendants' argument that these disclosures merely restate the claimed function.

Therefore, the Court hereby finds that **"means for determining whether a receiving terminal in the network can receive the canned message in text form or in message code form"** is a means-plus-function term, the claimed function is **"determining whether a receiving terminal in the network can retrieve the canned message in text form or in**

message code form," and the corresponding structure is **"NOC 12 and memory, configured to perform the algorithm disclosed in the '506 Patent at 5:49-56 and 6:7-12; and equivalents thereof."**

R. "means for updating the canned message file stored in the memory and a corresponding canned message file stored in a memory in at least the calling terminal" (Term 32)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "updating the canned message file stored in the memory and a corresponding canned message file stored in a memory in at least the calling terminal" Corresponding Structure: "CPU 131, ROM 139, RAM 140, memory 142; and equivalents thereof. No algorithm is required. To the extent an algorithm is required, one is provided at Fig. 6 and elaborated at col. 7, ll. 27-37"	Indefinite

Dkt. No. 78, Ex. B at 10; Dkt. No. 121, Ex. A at 24-25 (substantially similar). The parties submit that this term appears in Claim 17 of the '506 Patent. Dkt. No. 78, Ex. B at 10.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "35 U.S.C. § 112, ¶ 6 applies. / Function: 'updating the canned message file stored in the memory and a corresponding canned message file stored in a memory in at least the calling terminal' / Corresponding Structure: 'NOC 12, NOC memory, and terminal memories, configured to performed [*sic*] the algorithm disclosed in the '506 Patent at Fig. 6 and 7:25-37; and equivalents thereof.'"

(1) The Parties' Positions

Plaintiff argues that "NOC 12" performs the functions. Dkt. No. 99 at 18. Plaintiff also argues that no algorithm is required because no special programming is necessary. *Id.*

Alternatively, Plaintiff submits that the specification discloses a sufficient algorithm. *Id.* at 18-19.

Defendants argue this term together with the "means responsive . . ." term addressed above. *See* Dkt. No. 115 at 11-12.

Plaintiff replies that the disclosure it cites describes "the steps of storing the new file in RAM 140, forwarding the file to transmitter 136, and transmitting the file to the calling terminal 10." Dkt. No. 119 at 8.

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(2) Analysis

The parties appear to agree that 35 U.S.C. § 112, ¶ 6 applies, and the parties have not presented any dispute as to the claimed function.

As to the corresponding structure, the specification discloses:

> FIG. 6 illustrates the procedure for updating these files in accordance with one embodiment of the invention. NOC 12 updates the files (step 100) and stores the canned file updates in the NOC memory (step 102). NOC 12 then transmits the updated canned files to all of the terminals in a particular two-way messaging group, including calling terminal 10 and receiving terminal 14 (step 104). The canned file updates are received by the messaging group terminals (step 106) and stored in the terminal memories (step 108). It will be appreciated that updated canned files may be created at one of the terminals and transmitted to NOC 12, which then operates to disseminate the file updates to other terminals of the messaging group.

'506 Patent at 7:25-37; *see id.* at Fig. 6.

The specification thus links the "NOC 12," "NOC memory," and "terminal memories" to the claimed function. The NOC 12 is computer-implemented. *See id.* at 8:6-12. On balance, an algorithm is required. Plaintiff has not shown that the *Katz* exception applies. *See* 639 F.3d at 1316. Specifically, the claimed function of updating canned message files is not analogous to the "processing," "receiving," and "storing" functions that *Katz* found "can be achieved by any

general purpose computer without special programming." *Id.* The corresponding structure thus includes the algorithm set forth in the above-quoted disclosure. *See* '506 Patent at 7:25-37.

Therefore, the Court hereby finds that **"means for updating the canned message file stored in the memory and a corresponding canned message file stored in a memory in at least the calling terminal"** is a means-plus-function term, the claimed function is **"updating the canned message file stored in the memory and a corresponding canned message file stored in a memory in at least the calling terminal,"** and the corresponding structure is **"NOC 12, NOC memory, and terminal memories, configured to perform the algorithm disclosed in the '506 Patent at Fig. 6 and 7:25-37; and equivalents thereof."**

S. "means for retrieving from the memory those canned multiple response options assigned to response codes received from the calling terminal by the receiver, the retrieved canned message and multiple response options being transmitted to the receiving terminal by the transmitter" (Term 33)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "retrieving from the memory those canned multiple response options assigned to response codes received from the calling terminal by the receiver, the retrieved canned message and multiple response options being transmitted to the receiving terminal by the transmitter" Corresponding Structure: "CPU 131, ROM 139, RAM 140, memory 142; and equivalents thereof. No algorithm is required. To the extent an algorithm is required, one is provided at Fig. 5 and elaborated at col. 6, l. 58 – col. 7, l. 24"	Indefinite

Dkt. No. 78, Ex. B at 11; Dkt. No. 121, Ex. A at 25. The parties submit that this term appears in Claim 18 of the '506 Patent. Dkt. No. 78, Ex. B at 11.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "35 U.S.C. § 112, ¶ 6 applies. / Function: 'retrieving from the memory those canned multiple response options assigned to response codes received from the calling terminal by the receiver, the retrieved canned message and multiple response options being transmitted to the receiving terminal by the transmitter' / Corresponding Structure: 'NOC 12 and memory, configured to perform the algorithm disclosed in the '506 Patent at 6:17-24; and equivalents thereof.'"

(1) The Parties' Positions

Plaintiff argues that "NOC 12" performs the retrieving functions. Dkt. No. 99 at 19. Plaintiff also argues that no algorithm is required because no special programming is necessary. *Id.* Alternatively, Plaintiff submits that the specification discloses a sufficient algorithm. *Id.* at 19-20.

Defendants argue this term together with the "means responsive . . ." term addressed above. *See* Dkt. No. 115 at 11-12.

Plaintiff replies that "retrieving" can be performed by any general-purpose computer without special programming. Dkt. No. 119 at 7.

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(2) Analysis

The parties appear to agree that 35 U.S.C. § 112, ¶ 6 applies, and the parties have not presented any dispute as to the claimed function.

As to the corresponding structure, the structure proposed by Plaintiff pertains to selected response options being transmitted back to the calling terminal. The claimed function, by

contrast, relates to response options being transmitted to the receiving terminal (such that an option can be selected and then transmitted back to the calling terminal).

Nonetheless, Plaintiff has also identified disclosure that:

> NOC 12 uses the canned message/response option codes received from the calling party terminal 10 to retrieve from the appropriate file(s) the text of the associated canned message and multiple response options, if any, from a memory (step 60). The text of the canned message and response options, together with parameters, is then transmitted in standard message code format by NOC 12 to the receiving terminal (step 58).

'506 Patent at 6:17-24.

The specification thus links the "NOC 12" and "memory" to the claimed function. The NOC 12 is computer-implemented. *See id.* at 8:6-12. On balance, an algorithm is required. Plaintiff has not shown that the *Katz* exception applies. *See* 639 F.3d at 1316. Specifically, the claimed function of retrieving and transmitting response options is not analogous to the "processing," "receiving," and "storing" functions that *Katz* found "can be achieved by any general purpose computer without special programming." *Id.* The corresponding structure thus includes the algorithm set forth in the above-quoted disclosure. *See* '506 Patent at 6:17-24.

Therefore, the Court hereby finds that **"means for retrieving from the memory those canned multiple response options assigned to response codes received from the calling terminal by the receiver, the retrieved canned message and multiple response options being transmitted to the receiving terminal by the transmitter"** is a means-plus-function term, the claimed function is **"retrieving from the memory those canned multiple response options assigned to response codes received from the calling terminal by the receiver, the retrieved canned message and multiple response options being transmitted to the receiving terminal by the transmitter,"** and the corresponding structure is **"NOC 12 and memory, configured to perform the algorithm disclosed in the '506 Patent at 6:17-24; and equivalents thereof."**

T. "means for routing a selected canned multiple response option received from the receiving terminal to the calling terminal in either text or response code form" (Term 34)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "routing a selected canned multiple response option received from the receiving terminal to the calling terminal in either text or response code form" Corresponding Structure: "CPU 131, ROM 139, RAM 140, memory 142; and equivalents thereof. No algorithm is required. To the extent an algorithm is required, one is provided at Fig. 5 and elaborated at col. 6, l. 58 – col. 7, l. 12; and equivalents thereof"	Indefinite

Dkt. No. 78, Ex. B at 11-12; Dkt. No. 121, Ex. A at 26. The parties submit that this term appears in Claim 18 of the '506 Patent. Dkt. No. 78, Ex. B at 11.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "35 U.S.C. § 112, ¶ 6 applies. / Function: 'routing a selected canned multiple response option received from the receiving terminal to the calling terminal in either text or response code form' / Corresponding Structure: 'NOC 12 and canned multiple response option file, configured to perform the algorithm disclosed in the '506 Patent at 6:58-7:12; and equivalents thereof.'"

(1) The Parties' Positions

Plaintiff argues that "NOC 12" performs the functions. Dkt. No. 99 at 20. Plaintiff submits that the specification discloses a sufficient algorithm. *Id.*

Defendants argue this term together with the "means responsive . . ." term addressed above. *See* Dkt. No. 115 at 11-12.

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(2) Analysis

The parties appear to agree that 35 U.S.C. § 112, ¶ 6 applies, and the parties have not presented any dispute as to the claimed function.

As to corresponding structure, the specification discloses:

> FIG. 5 illustrates the operation of the NOC and the calling terminal in relaying a selected response option from the receiving terminal to the calling terminal in accordance with an embodiment of the invention. Initially, NOC 12 receives the selected response option transmitted by the receiving party terminal 14 (step 82). NOC then determines whether the received response option is in ASCII text code format or in canned response option code (step 83). If in text code, NOC simply relays the selected response option to the calling party terminal 10 (step 86). If the selected response option is received from the receiving party terminal in canned response option code, a decision is made whether to transmit the selected response option to the calling party terminal in canned response code or in ASCII text code (step 84). If the former, the canned response code is simply transmitted to the calling party terminal 10 as received from the receiving terminal (step 86). If in ASCII text code, NOC 12 is programmed to access its stored canned multiple response option file and, using the received response option code, retrieve the selected canned response option text (step 88), which is then transmitted in ASCII text code to the calling party terminal 10 (step 86).

'506 Patent at 6:58-7:12.

The specification thus links the "NOC 12" and "canned multiple response option file" to the claimed function. The NOC 12 is computer-implemented. *See id.* at 8:6-12. On balance, an algorithm is required. Plaintiff has not shown that the *Katz* exception applies. *See* 639 F.3d at 1316. Specifically, the claimed "routing" function is not analogous to the "processing," "receiving," and "storing" functions that *Katz* found "can be achieved by any general purpose computer without special programming." *Id.* The corresponding structure thus includes the algorithm set forth in the above-quoted disclosure. *See* '506 Patent at 6:58-7:12.

Therefore, the Court hereby finds that **"means for routing a selected canned multiple response option received from the receiving terminal to the calling terminal in either text or response code form"** is a means-plus-function term, the claimed function is **"routing a**

selected canned multiple response option received from the receiving terminal to the calling terminal in either text or response code form," and the corresponding structure is **"NOC 12 and canned multiple response option file, configured to perform the algorithm disclosed in the '506 Patent at 6:58-7:12; and equivalents thereof."**

U. "a message compiler for compiling the assigned message code and the response codes assigned to the selected multiple response options into a message for transmission by the transmitter" (Term 44)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "compiling the assigned message code and the response codes assigned to the selected multiple response options into a message for transmission by the transmitter" Corresponding Structure: "compiler 116; and equivalents thereof"	Function: "compiling the assigned message code and the response codes assigned to the selected multiple response options into a message for transmission by the transmitter" Structure: "message compiler 116, programmed to operate as described at col. 4:50-5:12, and equivalents thereof"

Dkt. No. 78, Ex. B at 15-16; Dkt. No. 121, Ex. A at 30. The parties submit that this term appears in Claim 21 of the '506 Patent. Dkt. No. 78, Ex. B at 15-16; Dkt. No. 121, Ex. A at 30.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning (35 U.S.C. § 112, ¶ 6 does not apply)."

(1) The Parties' Positions

Plaintiff argues that this term "is not governed by § 112, ¶ 6 because the term identifies sufficient structure that performs the function." Dkt. No. 99 at 21.

Defendants respond that "[t]his term is subject to § 112(6) because 'message compiler' is a coined term used to generically describe any hardware or software that performs the function of 'compiling.'" Dkt. No. 115 at 13. Further, Defendants argue, "[a]n algorithm is required to carry out the computer implemented 'compiling' function, and that algorithm is recited at col. 4:50-5:12." *Id.*

Plaintiff replies that "a compiler denotes structure with which one of ordinary skill in the art would be familiar," and "[e]ven if an algorithm is required, Defendants' construction includes steps that do not correspond to the claimed function." Dkt. No. 119 at 8.

At the December 2, 2016 hearing, Defendants urged that Plaintiff has relied upon an irrelevant definition of "compiler" in the field of computer software programming.

(2) Analysis

Here, "compiler" is not a "nonce" term (*see Williamson*, 792 F.3d at 1350) but rather connotes a class of structures. *See* Dkt. No. 99, Ex. 15, *The New IEEE Standard Dictionary of Electrical and Electronics Terms* 224 (5th ed. 1993) (defining "compiler" in the context of software as meaning: "A computer program that translates programs expressed in a high-order language into their machine language equivalents."). Also, surrounding claim language provides context as to the "inputs and outputs" and how a "compiler" "interacts with other components . . . in a way that . . . inform[s] the structural character of the limitation-in-question or otherwise impart[s] structure." *Williamson*, 792 F.3d at 1351.

In so finding, the Court applies long-standing principles articulated prior to the abrogated *Lighting World* decision. *See, e.g., Linear Tech.*, 379 F.3d at 1320 ("when the structure-connoting term 'circuit' is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of ordinary skill in the art, and § 112

¶ 6 presumptively will not apply"; noting "language reciting [the circuits'] respective objectives or operations"); *Personalized Media*, 161 F.3d at 705 ("Even though the term 'detector' does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as 'detectors.' We therefore conclude that the term 'detector' is a sufficiently definite structural term to preclude the application of § 112, ¶ 6."); *Greenberg*, 91 F.3d at 1583 (finding that "detent mechanism" was not a means-plus-function term because it denotes a type of device with a generally understood meaning in the mechanical arts).

Defendants have cited *Advanced Ground Information Systems, Inc. v. Life360, Inc.*, 830 F.3d 1341 (Fed. Cir. 2016), which applied means-plus-function treatment to the term "symbol generator." *See id.* at 1348 ("Irrespective of whether the terms 'symbol' and 'generator' are terms of art in computer science, the *combination* of the terms as used in the context of the relevant claim language suggests that it is simply an abstraction that describes the function being performed (i.e., the generation of symbols)."). On balance, Defendants have not persuasively shown that the disputed term is analogous to "symbol generator" or that the constituent term "compiler" is analogous to the term "generator."

Therefore, the Court hereby construes **"a message compiler for compiling the assigned message code and the response codes assigned to the selected multiple response options into a message for transmission by the transmitter"** to have its **plain meaning**.

VII. CONSTRUCTION OF DISPUTED TERMS IN U.S. PAT. NO. 5,809,428

V. "probe message," "acknowledgement" Terms, and "registration message" (Terms 2, 3, 4, 5, 6, 7)

"probe message" (Claims 1, 8; Term 2)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a message that is generated to locate a mobile unit within the network"	"a message that is generated by the network operations center to locate a mobile unit"
"acknowledgment to a probe message" / "probe acknowledgment message" (Claims 1, 8; Term 3)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"a message used to identify the location of a mobile unit based on the location of the base receiver that relayed the message from the mobile unit to the network operations center"
"transmitting a probe message … if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claims 1, 8; Term 4)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"transmitting a probe message if a data acknowledgment message is not received from a mobile unit within a predetermined amount of time after transmitting a data message to the mobile unit"

"[marking … / marking at the network operations center] a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claims 1, 8; Term 5)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"marking a data message as undelivered and storing the undelivered data message if a probe acknowledgment message is not received from a mobile unit within a predetermined amount of time after transmitting a probe message to the mobile unit"
"acknowledgment to a data message" / "data acknowledgment message" (Claims 1, 8; Term 6)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"a message sent to acknowledge receipt of a complete data message without errors"
"registration message" (Claims 2, 9; Term 7)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"a message that a mobile unit generates to identify itself to the network"	"a message that is generated by a mobile unit to update the location of a mobile unit based on the location of the base receiver that relayed the message from the mobile unit to the network operations center"

Dkt. No. 78, Ex. B at 1-3; Dkt. No. 121, Ex. A at 1-2 & 6.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"probe message" (Claims 1, 8; Term 2)	"a message that is generated to locate a mobile unit"

"acknowledgment to a probe message" / "probe acknowledgment message" (Claims 1, 8; Term 3)	Plain meaning (Reject Defs.' proposal)
"transmitting a probe message … if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claims 1, 8; Term 4)	"transmitting a probe message if a data acknowledgment message is not received from a mobile unit within a specified amount of time after transmitting a data message to the mobile unit"
"[marking … / marking at the network operations center] a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claims 1, 8; Term 5)	"marking a data message as undelivered and storing the undelivered data message if a probe acknowledgment message is not received from a mobile unit within a specified amount of time after transmitting a probe message to the mobile unit"
"acknowledgment to a data message" / "data acknowledgment message" (Claims 1, 8; Term 6)	Plain meaning (Reject Defs.' proposal of "without errors")
"registration message" (Claims 2, 9; Term 7)	"a message that a mobile unit generates to identify itself to the network operations center"

(1) The Parties' Positions

Plaintiff argues that the Court should simply adopt its prior constructions. Dkt. No. 99 at 21.

Defendants respond that a "probe message" must be generated by the network operations center. Dkt. No. 115 at 2. Defendants also argue that Plaintiff's proposal of "within the network" is unclear, particularly because there is no prior "network" recited in the claims. *Id.*

As to the "probe acknowledgement" and "data acknowledgement" terms, Defendants argue that their proposal is consistent with the specification. *Id.* Defendants also urge that whereas the Court previously construed these terms to have their "plain meaning," here construction is necessary. *Id.* at 3.

As to "registration message," Defendants argue that their proposal is consistent with the specification. *Id.* at 4.[13] Defendants urge that the Court erred in *HTC* because "the patent does not describe any embodiment where a registration message is not used to update the mobile unit's *location*." *Id.* Further, Defendants argue, Plaintiff's proposal improperly replaces the network operations center with "the network," which Defendants submit is unclear. *Id.*

As to the "transmitting" and "marking" terms, Defendants submit that "[t]he '428 patent consistently describes use of a timer . . . ." *Id.* at 4-5.

Plaintiff replies that "Defendants' constructions improperly limit the scope of the claim to a single embodiment . . . ." Dkt. No. 119 at 8.

At the December 2, 2016 hearing, the parties presented oral argument only as to the "acknowledgement" terms and the ". . . after transmitting . . ." terms. Defendants submitted that the specification contains no disclosure of any probe acknowledgement that is *not* used to locate a mobile unit. Plaintiff responded that a probe acknowledgement can be used by the system for many purposes, and further the mobile unit need not be self-aware of its location. As to the " . . . after transmitting . . ." terms, Plaintiff argued that the time period indicated by the word "after" need not be "clock time" but rather could be event-based. Defendants responded that Plaintiff's suggestion is overbroad because the only relevant event is the transmission of the data message or probe message. Defendants nonetheless agreed that there could be an algorithm that changes the amount of time depending on conditions.

[13] Defendants have also cited inventor testimony. *See* Dkt. No. 115 at 11. Such testimony is of little, if any, relevance in these claim construction proceedings. *See Howmedica*, 540 F.3d at 1346-47 (Fed. Cir. 2008) (noting that inventor testimony is "limited by the fact that an inventor understands the invention but may not understand the claims, which are typically drafted by the attorney prosecuting the patent application").

(2) Analysis

(a) "probe message" (Claims 1, 8; Term 2)

In *Sprint* and *LG*, the Court found that "probe message" means "a message that is generated to locate a mobile unit." *Sprint* at 43-48; *LG* at 47-49. Blackberry reached the same construction. *See Blackberry*, Ex. A at 3.

In *HTC*, the parties agreed that "probe message" means "a message that is generated by the network operations center to locate a mobile unit." *HTC* at 54. In *Amazon*, the parties agreed that "probe message" means "a message that is generated by the network operations center to locate a mobile unit for the purpose of determining whether the mobile unit can be reached." *Amazon* at 10.

On balance, none of the parties' arguments warrants departing from the Court's analysis and construction in *Sprint* and *LG*. *Sprint* at 43-48; *LG* at 47-49.

(b) "acknowledgment to a probe message" / "probe acknowledgment message" (Claims 1, 8; Term 3)

Defendants have cited various disclosures, but none of those disclosures requires that an "acknowledgement" is necessarily used to identify the location of a mobile unit based on the location of the base receiver that relayed the message from the mobile unit to the network operations center. *See* '428 Patent at 1:36-42, 3:48-50, 5:35-40 & 7:59-64; *see also* '946 Patent at 9:10-25, 10:2-6, 15:12-22, 17:1-7 & 27:48-53. Instead, determining approximate location by determining which base receiver receives the acknowledgement signal is a specific feature of particular disclosed embodiments that should not be imported into the claims. *See* '428 Patent at 5:35-40; *see also Phillips*, 415 F.3d at 1323. Finally, Defendants' reliance upon Plaintiff's characterization of the '804 Patent is unavailing. Dkt. No. 115 at 2-3 (citing Dkt. No. 99 at 3).

Therefore, the Court hereby expressly rejects Defendants' proposed construction. No further construction is necessary.

(c) "transmitting a probe message . . . if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claims 1, 8; Term 4)

The specification discloses that "[i]f no acknowledgment message is received within a specified time, the network operations center sends a probe message . . . ." '428 Patent at Abstract (emphasis added); *see id.* at Fig. 6; *see also id.* at 5:16-24 ("[DMP module 304] starts an internal timer 316 for receiving acknowledgment of receipt by the destination mobile unit within a predetermined time period. If timer 316 expires before a data acknowledgment message is received, then DMP module 304 requests PMG module 312 to generate a probe message.") & 7:20-33.

On balance, this context is necessary to give meaning to the conditional "if" recited in this disputed term. In particular, the word "after" presupposes an amount of time such that a determination can be made as to the absence of an acknowledge message. Construction is appropriate in this regard.

Nonetheless, Defendants have not sufficiently justified their proposal of requiring a "predetermined" amount of time that cannot change rather than merely a "specified" amount of time. *Compare id.* at 5:19-24 with Abstract. Indeed, at the December 2, 2016 hearing, Defendants agreed that the system could be arranged so as to change the amount of time depending on conditions.

(d) "[marking . . . / marking at the network operations center] a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claims 1, 8; Term 5)

This disputed term presents substantially the same dispute as the "transmitting . . ." term addressed above. *See* '428 Patent at 5:41-53 & 7:49-58.

(e) "acknowledgment to a data message" / "data acknowledgment message" (Claims 1, 8; Term 6)

On one hand, the '428 Patent discloses that "the mobile unit is capable of acknowledging that it *accurately* received a message sent from the network operations center." '428 Patent at 1:39-42 (emphasis added); *see also* '946 Patent at 9:10-25, 15:12-22, 17:1-7 & 27:48-53.

On the other hand, the '946 Patent—which the '428 Patent incorporates by reference, *see* '428 Patent at 1:36-39—discloses that a message containing errors might nonetheless be acceptable to a user. *See* '946 Patent at 17:10-27 ("allowing the user the flexibility to elect not to request retransmission of messages which contain errors but can be understood nonetheless").

On balance, Defendants have not demonstrated that "acknowledgement" necessarily requires the absence of errors. Therefore, the Court hereby expressly rejects Defendants' proposed construction. No further construction is necessary.

(f) "registration message" (Claims 2, 9; Term 7)

In *HTC*, the Court construed "registration message" to mean "a message that a mobile unit generates to identify itself to the network operations center." *HTC* at 35-36. In particular, *HTC* expressly rejected the defendants' proposal that this term means "a message that a mobile unit generates to update its location." *See id.*

Defendants have not shown that the Court should depart from its prior construction. In particular, determining approximate location by determining which base receiver receives the

acknowledgement signal is a specific feature of particular disclosed embodiments that should not be imported into the claims. *See* '946 Patent at 28:29-39; *see also* '428 Patent at 4:31-34 & 5:35-40; *Phillips*, 415 F.3d at 1323. For example, a registration message may be useful for communicating the status of a particular device rather than necessarily locating the device. See '428 Patent at 6:42-48.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"probe message" (Claims 1, 8; Term 2)	**"a message that is generated to locate a mobile unit"**
"acknowledgment to a probe message" / "probe acknowledgment message" (Claims 1, 8; Term 3)	**Plain meaning**
"transmitting a probe message . . . if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claims 1, 8; Term 4)	**"transmitting a probe message if a data acknowledgment message is not received from a mobile unit within a specified amount of time after transmitting a data message to the mobile unit"**
"[marking . . . / marking at the network operations center] a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claims 1, 8; Term 5)	**"marking a data message as undelivered and storing the undelivered data message if a probe acknowledgment message is not received from a mobile unit within a specified amount of time after transmitting a probe message to the mobile unit"**
"acknowledgment to a data message" / "data acknowledgment message" (Claims 1, 8; Term 6)	**Plain meaning**
"registration message" (Claims 2, 9; Term 7)	**"a message that a mobile unit generates to identify itself to the network operations center"**

W. Terms 11, 12, 19

"In a two-way wireless communications system, a method of . . . comprising the steps of: (a) transmitting . . .; (b) receiving . . .; (c) transmitting . . .; (d) marking . . ." (Claim 8; Term 11)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"No construction necessary. The data messages recited in steps (c), (d), and (e) are not necessarily the same as the data message recited in steps (a) and (b)."	Indefinite
Order of Steps in Claim 8 (Term 12)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"No construction necessary. The data message recited in steps (c), (d), and (e) are not necessarily the same as the data message recited in steps (a) and (b)."	Steps must be performed in the recited order.

"means for automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit" (Claim 1; Term 19)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "automatically transmitting undelivered data messages upon receiving a registration message from the mobile unit" Corresponding Structure: "RMP module 306, MTD module 302, memory storage unit 110, message transmitting unit 108, configured to perform the algorithm recited in the claims and elaborated at col. 5, ll. 4-15 and col. 5, ll. 54-58 or col. 8, ll. 28-42; and equivalents thereof"	Indefinite

Dkt. No. 78, Ex. B at 3 & 6; Dkt. No. 121, Ex. A at 7-8 & 9.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"In a two-way wireless communications system, a method of . . . comprising the steps of: (a) transmitting . . .; (b) receiving . . .; (c) transmitting . . .; (d) marking . . ." (Claim 8; Term 11)	No construction necessary. The data messages recited in steps (c), (d), and (e) are not necessarily the same as the data message recited in steps (a) and (b).
Order of Steps in Claim 8 (Term 12)	Step (a) must be performed before step (b), and step (d) must be performed before step (e).

"means for automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit" (Claim 1; Term 19)	Function: "automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit" Corresponding Structure: "registration message processing (RMP) module 306, memory storage unit 110, and message transmitting unit 108, configured to perform the algorithm set forth in the '428 Patent at 8:28-42; and equivalents thereof"

(1) The Parties' Positions

Plaintiff argues that "[t]he Court's prior constructions of terms 11, 12, and 19 should be applied in this litigation." Dkt. No. 99 at 21.

Defendants respond that, in Claim 8, "step (c) is premised on step (b) not occurring, resulting in an inherent inconsistency because each step of claim 8 cannot possibly be met, rendering the claim indefinite." Dkt. No. 115 at 9-10.

Defendants also submit that "use of 'means' raises a presumption that § 112(6) applies, which [Plaintiff] has not rebutted." *Id.* at 8. Defendants argue that the purported structures identified by Plaintiff "are nothing more than 'black boxes' representing some undisclosed structure for performing the recited function." *Id.* at 9.

As to the order of steps in Claim 8, Defendants argue:

> In claim 8, step (a) requires transmitting a data message, which must be performed prior to receiving a message acknowledging receipt of that message in step (b). Similarly, steps (c) and (d) must be performed in the recited order because the "marking" in step (d) depends on failure to receive a probe acknowledgement, which must occur after transmission of the probe message in step (c). And "storing" the undelivered message in step (e) cannot occur prior to the message being marked as undelivered in step (d).

Id. at 29.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

(a) "In a two-way wireless communications system, a method of . . . comprising the steps of: (a) transmitting . . .; (b) receiving . . .; (c) transmitting . . .; (d) marking . . ." (Claim 8; Term 11)

In *Amazon*, the Court found: "No construction necessary. The data messages recited in steps (c), (d), and (e) are not necessarily the same as the data message recited in steps (a) and (b)." *Amazon* at 17-21. The Court rejected indefiniteness arguments similar to those presented here by Defendants. *See id.* The Court reaches the same conclusions here for the same reasons.

(b) Order of Steps in Claim 8 (Term 12)

As Defendants have argued, step (a) requires transmitting a data message, which must be performed prior to receiving a message acknowledging receipt of that message in step (b). Also, "storing . . . the undelivered message" in step (e) cannot occur prior to the message being marked as undelivered in step (d). Beyond these required orderings, however, Defendants have not sufficiently demonstrated that the steps must be performed in the order recited. As found in *Amazon*, the data messages recited in steps (c), (d), and (e) are not necessarily the same as the data message recited in steps (a) and (b). *See Amazon* at 17-21.

(c) "means for automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit" (Claim 1; Term 19)

The Court previously construed this disputed term, and Defendants have not adequately supported their assertion that this term is indefinite. *See Amazon* at 56-60. Likewise, Plaintiff has not demonstrated that the Court should modify its prior findings as to the corresponding

structure. *See id.*; *see also Asyst*, 268 F.3d at 1371 ("The corresponding structure to a function set forth in a means-plus-function limitation must actually perform the recited function, not merely enable the pertinent structure to operate as intended.").

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"In a two-way wireless communications system, a method of . . . comprising the steps of: (a) transmitting . . .; (b) receiving . . .; (c) transmitting . . .; (d) marking . . ." (Claim 8; Term 11)	**No construction necessary. The data messages recited in steps (c), (d), and (e) are not necessarily the same as the data message recited in steps (a) and (b).**
Order of Steps in Claim 8 (Term 12)	**Step (a) must be performed before step (b), and step (d) must be performed before step (e).**
"means for automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit" (Claim 1; Term 19)	**Function:** **"automatically transmitting undelivered data messages to the mobile unit upon receiving a registration message from the mobile unit"** **Corresponding Structure:** **"registration message processing (RMP) module 306, memory storage unit 110, and message transmitting unit 108, configured to perform the algorithm set forth in the '428 Patent at 8:28-42; and equivalents thereof"**

X. "means for transmitting messages to the mobile unit" (Term 13) and "means for receiving . . ." (Terms 14, 18)

"means for transmitting messages to the mobile unit" (Claim 1; Term 13)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "transmitting messages to the mobile unit" Corresponding Structure: "message transmitting unit 108; and equivalents thereof"	Indefinite
"means for receiving acknowledgment messages from the mobile unit" (Claim 1; Term 14)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "receiving acknowledgment messages from the mobile unit" Corresponding Structure: "message receiving unit 104; and equivalents thereof"	Indefinite

"means for receiving registration messages from the mobile unit" (Claim 2; Term 18)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary: Not subject to §112(6). In the alternative Function: "receiving registration messages from the mobile unit" Corresponding Structure: "message receiving unit 104; and equivalents thereof"	Indefinite

Dkt. No. 78, Ex. B at 3-4 & 6; Dkt. No. 121, Ex. A at 3 & 6-7.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"means for transmitting messages to the mobile unit" (Claim 1; Term 13)	35 U.S.C. § 112, ¶ 6 applies. Function: "transmitting messages to the mobile unit" Corresponding Structure: "message transmitting unit 108; and equivalents thereof"
"means for receiving acknowledgment messages from the mobile unit" (Claim 1; Term 14)	35 U.S.C. § 112, ¶ 6 applies. Function: "receiving acknowledgment messages from the mobile unit" Corresponding Structure: "message receiving unit 104; and equivalents thereof"

"means for receiving registration messages from the mobile unit" (Claim 2; Term 18)	35 U.S.C. § 112, ¶ 6 applies. Function: "receiving registration messages from the mobile unit" Corresponding Structure: "message receiving unit 104; and equivalents thereof"

(1) The Parties' Positions

Plaintiff argues: "Defendants commit the same errors with terms 13, 14, and 18 of the '428 Patent as with terms 40, 41, 42, and 43 of the '506 Patent. Each term identifies sufficient structure within the claimed element to avoid invoking § 112, ¶ 6." Dkt. No. 99 at 21. Alternatively, Plaintiff submits that the specification discloses sufficient structure. *Id.* at 22.

Defendants respond that "use of 'means' raises a presumption that § 112(6) applies, which [Plaintiff] has not rebutted." Dkt. No. 115 at 8. Defendants also argue that the purported structures identified by Plaintiff "are nothing more than 'black boxes' representing some undisclosed structure for performing the recited function." *Id.* at 9.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

As a threshold matter, Plaintiff has failed to overcome the presumption that this "means" term is subject to 35 U.S.C. § 112, ¶ 6. *See Williamson*, 792 F.3d at 1348. The Court hereby expressly rejects Plaintiff's argument that the recitals of "transmitting" and "receiving" are sufficient implicit recitals of a transmitter and a receiver. *See* Dkt. No. 99 at 22.

The parties appear to agree upon the claimed function. As to the proper corresponding structure, Plaintiff proposes the structures that the parties agreed upon in *Sprint*. *See Sprint* at 77-78.

(a) "means for transmitting messages to the mobile unit" (Claim 1; Term 13)

Defendants have cited *ePlus, Inc. v. Lawson Software, Inc.*, which found as to a "means for processing" to generate purchase orders that "[t]here is no instruction for using a particular piece of hardware, employing a specific source code, or following a particular algorithm." 700 F.3d 509, 518-19 (Fed. Cir. 2012). The *ePlus* court concluded that the relevant claims were indefinite. *Id.* at 519.

The case of *ePlus* is distinguishable. In its opinion, *ePlus* considered three specific disclosures to be insufficient. Those disclosures described prior art systems, merely disclosed a "means," or set forth only action without any reference to structure. *See id.* at 518. Here, by contrast, the specification discloses structure in the form of "message transmitting unit 108":

> FIG. 6 shows a flow diagram depicting the operation of network operations center 100 in attempting data message delivery and processing undelivered data messages, in accordance with a preferred embodiment of the present invention. The process starts when network operations center 100 transmits a current data message through *message transmitting unit 108* to the last known location of a corresponding mobile unit and DMP module 304 starts timer 316 for receiving a data acknowledgment message as described above (step 600).

'428 Patent at 7:15-24 (emphasis added); *see id.* at 5:54-58 ("forwards to message transmitting unit 108 any undelivered data messages"); *see also id.* at 8:38-42 ("transmits through message transmitting unit 108 any undelivered data messages").

Finally, Defendants have not demonstrated that the "message transmitting unit 108" is a general-purpose computer. Thus, no algorithm is required. *See, e.g., Net MoneyIN*, 545 F.3d at 1367; *WMS Gaming*, 184 F.3d at 1349.

(b) "means for receiving acknowledgment messages from the mobile unit" (Claim 1; Term 14) and "means for receiving registration messages from the mobile unit" (Claim 2; Term 18)

The specification discloses:

> *Message receiving unit 104* receives messages and forwards them to central computer 106. In accordance with the present invention, message receiving unit 104 receives at least three different types of messages: data messages, acknowledgment messages, and registration messages.

'428 Patent at 3:58-62 (emphasis added); *see id.* at 5:4-6 ("the message received by message receiving unit 104"). For substantially the same reasons as set forth above regarding the "means for transmitting messages to the mobile unit," the specification sets forth sufficient corresponding structure for these "means for receiving . . ." terms, and no algorithms are required.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"means for transmitting messages to the mobile unit" (Claim 1; Term 13)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"transmitting messages to the mobile unit"** **Corresponding Structure:** **"message transmitting unit 108; and equivalents thereof"**

"means for receiving acknowledgment messages from the mobile unit" (Claim 1; Term 14)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"receiving acknowledgment messages from the mobile unit"** **Corresponding Structure:** **"message receiving unit 104; and equivalents thereof"**
"means for receiving registration messages from the mobile unit" (Claim 2; Term 18)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"receiving registration messages from the mobile unit"** **Corresponding Structure:** **"message receiving unit 104; and equivalents thereof"**

Y. "means for determining . . ." (Term 15), "means for transmitting . . ." (Term 16), and "means for marking . . ." (Term 17)

"means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message" (Claim 1; Term 15)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "determining whether an acknowledgment is an acknowledgment to a data message or an acknowledgment to a probe message" Corresponding Structure: "message receiving unit 104, MTD module 302, DMP module 304, AMP module 310, and RMP module 306; configured to perform the algorithm recited at col. 5, ll. 4-15; and equivalents thereof"	Indefinite

"means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claim 1; Term 16)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" Corresponding Structure: "message transmitting unit 108, timer 316, DMP module 304, and PMG module 312; configured to perform the algorithm recited in the claims and elaborated at col. 5, ll. 16-23 and col. 5, ll. 40-44; and equivalents thereof"	Indefinite
"means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claim 1; Term 17)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" Corresponding Structure: "DMP module 304, PMP module 312, message transmitting unit 108, timer 316, and UDMP module 314,[] configured to perform the algorithm recited in the claims and elaborated at col. 5, ll. 40-53; and equivalents thereof"	Indefinite

Dkt. No. 78, Ex. B at 4-5; Dkt. No. 121, Ex. A at 3-5.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message" (Claim 1; Term 15)	35 U.S.C. § 112, ¶ 6 applies. Indefinite
"means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claim 1; Term 16)	35 U.S.C. § 112, ¶ 6 applies. Function: "transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" Corresponding Structure: "message transmitting unit 108, timer 316, DMP module 304, and PMG module 312, configured to perform the algorithm disclosed in the '428 Patent at 5:16-23 and 5:40-44; and equivalents thereof"
"means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claim 1; Term 17)	35 U.S.C. § 112, ¶ 6 applies. Indefinite

Plaintiff argues that although *Amazon* found terms 15 and 17 indefinite, "[i]n this matter, [Plaintiff] identifies sufficient structure clearly linked to the claimed function so that the identified terms are not indefinite." Dkt. No. 99 at 22. Plaintiff argues: "[Plaintiff's] proposed constructions also are not barred by the doctrine of collateral estoppel because the *Amazon* claim construction ruling was not a final judgment." *Id.*; *see* Dkt. No. 119 at 9.

(a) "means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message" ('428 Patent, Claim 1; Term 15)

(i) The Parties' Positions

Plaintiff argues that "[t]he '428 Patent specification teaches that Receiver 204, MTD Module 302, and AMP Module 310 make this determination." Dkt. No. 99 at 25.

Defendants argue that collateral estoppel applies based on the indefiniteness finding in *Amazon*. Dkt. No. 115 at 6. Alternatively, Defendants argue that "[Plaintiff] has not identified any reason for the Court to depart from its prior findings in *Amazon* and *HTC*." *Id.* at 7.

At the December 2, 2016 hearing, the parties reiterated their arguments.

(ii) Analysis

In *Amazon*, the Court found this disputed term indefinite because of lack of corresponding structure. *See Amazon* at 26-41. On the merits, the Court reaches the same conclusions here as in *Amazon* for substantially the same reasons set forth therein. *See id.* Alternatively, collateral estoppel applies. *See, e.g., Mendenhall v. Barber-Greene Co.*, 26 F.3d 1573, 1577 (Fed. Cir. 1994); *Dana v. E.S. Originals, Inc.*, 342 F.3d 1320, 1324 (Fed. Cir. 2003); *DietGoal Innovations LLC v. Chipotle Mexican Grill, Inc.*, 70 F. Supp. 3d 808, 811-12 (E.D. Tex. 2014) (Bryson, J.). Plaintiff's reliance upon *Avondale Shipyards, Inc. v. Insured Lloyd's* is also unpersuasive at least because the collateral estoppel issue here is distinguishable the one from that case. *See* 786 F.2d 1265, 1272 (5th Cir. 1986).

(b) "means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" ('428 Patent, Claim 1; Term 16)

(i) The Parties' Positions

Plaintiff argues that "[t]he '428 Patent discloses that the corresponding structure is 'message transmitting unit 108, timer 316, DMP module 304, and PMG module 312.'" Dkt. No. 99 at 27. Plaintiff also argues that "[t]he function, 'transmitting,' can be performed by known structure such as a transmitter, and thus no algorithm is required." *Id.* Alternatively, Plaintiff submits that "[i]f an algorithm is required, however, the '428 Patent provides one in the claim term itself in the form of an 'if-then' statement whereby the probe message is transmitted if, after a data message is transmitted, a data acknowledgment message is not received." *Id.*

Defendants respond that "use of 'means' raises a presumption that § 112(6) applies, which [Plaintiff] has not rebutted." Dkt. No. 115 at 8. Defendants also argue that the purported structures identified by Plaintiff "are nothing more than 'black boxes' representing some undisclosed structure for performing the recited function." *Id.* at 9.

Plaintiff replies that "[t]his Court has previously held that 'message transmitting unit 108' is sufficiently definite structure, and should do so again." Dkt. No. 119 at 9 (citing *Amazon* at 56-60).

At the December 2, 2016 hearing, the parties presented no oral argument as to this term.

(ii) Analysis

The specification discloses structure in the form of "message transmitting unit 108":

> As DMP module 304 receives a data message from MTD module 302, it forwards the message to *message transmitting unit 108* to be delivered to the destination mobile unit and starts an internal timer 316 for receiving acknowledgment of receipt by the destination mobile unit within a predetermined time period. If timer 316 expires before a data acknowledgment message is received, then DMP module 304 requests PMG module 312 to generate a probe message.

> * * *
>
> As PMG module 312 receives a request from DMP module 304 to generate a probe message, it creates a probe message, forwards it to message transmitting unit 108, and starts timer 316 for receiving a probe acknowledgment message within a predetermined time period.
>
> * * *
>
> FIG. 6 shows a flow diagram depicting the operation of network operations center 100 in attempting data message delivery and processing undelivered data messages, in accordance with a preferred embodiment of the present invention. The process starts when network operations center 100 transmits a current data message through *message transmitting unit 108* to the last known location of a corresponding mobile unit and DMP module 304 starts timer 316 for receiving a data acknowledgment message as described above (step 600).

'428 Patent at 5:16-23, 5:40-44 & 7:15-24 (emphasis added).

These disclosures set forth sufficient structure and algorithms and are consistent with Plaintiff's proposed interpretation. Therefore, the Court hereby expressly rejects Defendants' indefiniteness arguments.

> (c) "means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" ('428 Patent, Claim 1; Term 17)
>
> (i) The Parties' Positions

Plaintiff argues that the corresponding structure is "central computer 106, which controls the operation of the NOC," and Plaintiff also submits that "the '428 Patent specifies that Timer 316, PMG Module 312, message transmitting unit 108, UDMP Module 314, and memory storage unit 110 are the components within the NOC that perform this function." Dkt. No. 99 at 28.

Defendants argue that collateral estoppel applies based on the indefiniteness finding in *Amazon*. Dkt. No. 115 at 6.

At the December 2, 2016 hearing, the parties reiterated their arguments.

(ii) Analysis

In *Amazon*, the Court found this disputed term indefinite because of lack of corresponding structure. *See Amazon* at 51-56. On the merits, the Court reaches the same conclusions here as in *Amazon* for substantially the same reasons set forth therein. *See id.* Alternatively, collateral estoppel applies. *See, e.g.*, *Mendenhall*, 26 F.3d at 1577; *Dana*, 342 F.3d at 1324; *DietGoal*, 70 F. Supp. 3d at 811-12.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message" (Claim 1; Term 15)	**35 U.S.C. § 112, ¶ 6 applies.** **Indefinite**
"means for transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received" (Claim 1; Term 16)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"transmitting a probe message to the mobile unit if, after transmitting a data message to the mobile unit, no data acknowledgment message is received"** **Corresponding Structure:** **"message transmitting unit 108, timer 316, DMP module 304, and PMG module 312, configured to perform the algorithm disclosed in the '428 Patent at 5:16-23 and 5:40-44; and equivalents thereof"**
"means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Claim 1; Term 17)	**35 U.S.C. § 112, ¶ 6 applies.** **Indefinite**

Z. "dial-in access" (Terms 10, 20)

"dial-in access" (Claims 3, 10; Term 10)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning"	"access using a telephone"
"means for allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages" (Claim 3; Term 20)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Function: "allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages" Corresponding Structure: "DA unit 102; and equivalents thereof"	Function: "allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages" Structure: "dial-in access unit 102, programmed to operate as described at 8:6-27"

Dkt. No. 78, Ex. B at 3 & 6-7; Dkt. No. 121, Ex. A at 8.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
"dial-in access" (Claims 3, 10; Term 10)	"access using a telephone network"

"means for allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages" (Claim 3; Term 20)	35 U.S.C. § 112, ¶ 6 applies. Function: "allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages" Corresponding Structure: "dial-in access unit 102; and equivalents thereof"

(1) The Parties' Positions

Plaintiff argues that the specification supports that a modem can be used rather than only a telephone. Dkt. No. 99 at 30.

Defendants respond that "the term 'modem' does not appear in the '428 patent, and neither patent describes use of a modem as 'dial-in access.'" Dkt. No. 115 at 6. As to the "means" term, Defendants argue that "[t]he only structure for allowing dial-in access are the steps described at col. 8:6-27." *Id.* at 9.

Plaintiff replies that "'[d]ial-in access unit' is not merely a 'black box,' but rather refers to known hardware structure, namely a modem." Dkt. No. 119 at 9 n.3.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

Claims 3 and 10 of the '428 Patent recite (emphasis added):

> 3. The network operations center according to claim 1, further comprising means for allowing *dial-in access* to undelivered data messages by a subscriber to retrieve the undelivered data messages.
>
> * * *

> 10. A method according to claim 8, wherein a subscriber has *dial-in access* to the undelivered data messages stored at the network operations center to retrieve those data messages.

The specification of the ’428 Patent discloses:

> FIG. 1 shows a block diagram of network operations center 100, in accordance with a preferred embodiment of the present invention. Network operations center 100 includes *dial-in access unit 102*, message receiving unit 104, central computer 106, message transmitting unit 108, and memory storage unit 110. Central computer 106 is connected to *dial-in access unit 102*, message receiving unit 104, message transmitting unit 108, and memory storage unit 110. The network operations center is more completely described in the incorporated U.S. patent application Ser. No. 08/124,219 [(which issued as the ’946 Patent)].
>
> In a preferred embodiment of the invention, *dial-in access unit 102* allows a subscriber or a caller to contact network operations center 100 via the *telephone network*. For example, a caller may *dial-in* to leave a message for the subscriber, and a subscriber may dial in to change subscription parameters or retrieve undelivered messages.
>
> * * *
>
> FIG. 7 shows a flow diagram depicting a method of transmitting undelivered data messages when a subscriber dials-in to network operations center 100, in accordance with a preferred embodiment of the present invention. The process starts when network operations center 100 receives subscriber dial-in through *dial-in access (DA) unit 102* (step 700). For example, when a subscriber traveling on an airplane lands, he may dial-in to the network operations center to check whether there are any undelivered messages for him. In response to a prompt (e.g., a voice prompt) from network operations center 100, the subscriber indicates that he wishes to check for undelivered messages. DA unit 102 checks memory storage unit 110 to determined [*sic*] whether there exists [*sic*] any undelivered data messages for that subscriber (step 702). If not, then DA unit 102 indicates to the subscriber that currently there are no undelivered messages (step 704). If there are undelivered data messages, then DA unit 102 preferably indicates to the subscriber the number of such messages (step 706) and inquires whether the subscriber wishes to receive them (step 708). If the subscriber responds affirmatively, then message transmitting unit 108 re-transmits the undelivered data messages (step 710).

’428 Patent at 3:41-57 & 8:6-27.

The specification of the ’428 Patent thus uses the term “dial-in” in the context of using a “telephone network.”

The incorporated '946 Patent further discloses:

> The base receiver input system 2000 then provides the received data to a central computer 2002. The central computer 2002 may also receive input from a user input system 2004. For example, the user input system 2004 may *receive data from users via phone lines* who may access and interact with the central computer via *voice, DTMF, or modem transmission* and may include appropriate conventional signal processing equipment. A user may interact with the central computer 2002 to modify his service, to initiate or receive messages, or to perform other desirable functions.

'946 Patent at 19:56-65.

The specification of the incorporated '946 Patent thus clarifies that although a telephone network ("phone lines") are used, communication is not limited to using an actual telephone but rather may employ a modem. *See also* Dkt. No. 99, Ex. 14, *Newton's Telecom Dictionary* 731 (9th ed. 1995) ("Modems are used to send data signals (digital) over the telephone network, which usually is analog."). Defendants have argued that "dial-in" access is limited to telephone access because modem access is commonly referred to as "dial-up." *See* Dkt. No. 115, Ex. 4, *Webster's New World Dictionary of Computer Terms* 159-60 (8th ed. 2000) (defining "dial-up access" with reference to a modem, and defining "dial-up modem" as: "In contrast to a modem designed for use with a leased line, a modem that can dial a telephone number, establish a connection, and close the connection when it is no longer needed. Most personal computer modems are dial-up modems."). This extrinsic evidence, however, fails to override the above-quoted disclosure in the incorporated '946 Patent.

As to the "means for allowing dial-in access . . .," the parties agree that this is a means-plus-function term governed by 35 U.S.C. § 112, ¶ 6, and the parties agree upon the claimed function. As to the proper corresponding structure, the above-quoted disclosures in the '428 Patent link the claimed function to "dial-in access unit 102." *See* '428 Patent at 3:41-54 & 8:6-27. Defendants have not demonstrated that the "dial-in access unit 102" is a general-purpose

computer. Thus, no algorithm is required. *See, e.g.*, *Net MoneyIN*, 545 F.3d at 1367; *WMS Gaming*, 184 F.3d at 1349.

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"dial-in access" (Claims 3, 10; Term 10)	**"access using a telephone network"**
"means for allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages" (Claim 3; Term 20)	**35 U.S.C. § 112, ¶ 6 applies.** **Function:** **"allowing dial-in access to undelivered data messages by a subscriber to retrieve the undelivered data messages"** **Corresponding Structure:** **"dial-in access unit 102; and equivalents thereof"**

AA. Preambles of Claims 1 and 8 (Term 1)

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"plain meaning; the preambles are not limiting"	The preambles are limiting

Dkt. No. 78, Ex. B at 1; Dkt. No. 121, Ex. A at 1.

Shortly before the start of the December 2, 2016 hearing, the Court provided the parties with the following preliminary constructions:

Term	Preliminary Construction
Preamble of Claim 1 of the '428 Patent	Limiting as to "transmitting and receiving messages to and from a wireless mobile unit"
Preamble of Claim 8 of the '428 Patent	Limiting

(1) The Parties' Positions

Defendants argue that the preambles provide antecedent basis for terms recited in the claim bodies. Dkt. No. 115 at 28.

Plaintiff replies: "that the preamble of a claim contains a 'network operation center' cannot limit that claim's scope when the body of said claim contains an identical 'network operation center.'" Dkt. No. 119 at 10.

At the December 2, 2016 hearing, the parties presented no oral argument as to these terms.

(2) Analysis

In *Sprint*, the Court found that the term "network operations center" in the preamble of Claim 1 is not a limitation. *Sprint* at 42.

Claim 1 of the '428 Patent recites (emphasis added):

> 1. A network operations center for transmitting and receiving messages to and from *a wireless mobile unit* comprising:
> means for transmitting messages to *the mobile unit*;
> means for receiving acknowledgment messages from *the mobile unit*;
> means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message;
> means for transmitting a probe message to *the mobile unit* if, after transmitting a data message to *the mobile unit*, no data acknowledgment message is received; and
> means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to *the mobile unit*, no probe acknowledgment message is received.

On one hand, "[t]hat [a] phrase in the preamble . . . provides a necessary structure for [the] claim . . . does not necessarily convert the entire preamble into a limitation, particularly one that only states the intended use of the invention." *See TomTom, Inc. v. Adolph*, 790 F.3d 1315, 1323 (Fed. Cir. 2015); *see also Marrin v. Griffin*, 599 F.3d 1290, 1294-95 (Fed. Cir. 2010) ("the

mere fact that a structural term in the preamble is part of the claim does not mean that the preamble's statement of purpose or other description is also part of the claim").

On the other hand, the above-emphasized reliance upon the preambles for antecedent basis weighs in favor of finding the preambles limiting. *See Eaton*, 323 F.3d at 1339.

On balance, "the wireless mobile unit" recited in the body of Claim 1 of the '428 Patent is "defined in greater detail in the preamble" by the recital of "transmitting and receiving messages to and from a wireless mobile unit." *Proveris Scientific Corp. v. Innovasystems, Inc.*, 739 F.3d 1367, 1373 (Fed. Cir. 2014) ("The phrase 'the image data' clearly derives antecedent basis from the 'image data' that is defined in greater detail in the preamble as being 'representative of at least one sequential set of images of a spray plume.'").

Claim 8 of the '428 Patent recites (emphasis added):

> 8. In a two-way wireless communications system, a method of processing data messages that cannot be successfully transmitted from *a network operations center* to **a wireless mobile unit** comprising the steps of:
>
> (a) transmitting a data message from *the network operations center* to **the mobile unit**;
>
> (b) receiving at *the network operations center* a data acknowledgment message from **the mobile unit** acknowledging receipt of the data message sent by *the network operations center*;
>
> (c) transmitting a probe message from *the network operations center* to **the mobile unit** if, after transmitting a data message to **the mobile unit**, no data acknowledgment message is received at *the network operations center*;
>
> (d) marking at *the network operations center* a data message as undelivered if, after transmitting a probe message to **the mobile unit**, no probe acknowledgment message is received at *the network operations center*; and
>
> (e) storing at *the network operations center* the undelivered data message.

The preamble thus provides antecedent basis for both "the network operations center" and "the mobile unit." Of particular note, the preamble further defines "the mobile unit" as being "a *wireless* mobile unit." Also, the recital that the network operations center and the wireless mobile unit are "[i]n a two-way wireless communications system" provides detail

regarding the configuration of, and relationship between, the networks operations center and the wireless mobile unit. *See Proveris*, 739 F.3d at 1373. On balance, the preamble of Claim 8 of the '428 Patent is limiting in its entirety. *See Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995) ("[W]hen the claim drafter chooses to use *both* the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects.").

Accordingly, the Court hereby construes the disputed terms as set forth in the following chart:

Term	Construction
Preamble of Claim 1 of the '428 Patent	**Limiting as to "transmitting and receiving messages to and from a wireless mobile unit"**
Preamble of Claim 8 of the '428 Patent	**Limiting**

VIII. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit.

As discussed above regarding the "means for determining whether an acknowledgment message is an acknowledgment to a data message or an acknowledgment to a probe message" (Term 15) and the "means for marking a data message as undelivered and storing the undelivered data message if, after transmitting a probe message to the mobile unit, no probe acknowledgment message is received" (Term 17), the Court finds that Claim 1 of the '428 Patent is indefinite.

The parties are ordered to not refer to each other's claim construction positions in the presence of the jury. Likewise, in the presence of the jury, the parties are ordered to refrain from

mentioning any portion of this opinion, other than the actual definitions adopted by the Court. The Court's reasoning in this order binds the testimony of any witnesses, and any reference to the claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 18th day of December, 2016.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

Term	Parties' Agreement
"[canned multiple] response option(s)" ('506 Patent, Claims 5, 6, 11-13, 18, 19, 21)	"predefined [multiple] response(s) to the canned message"
"a portion of [the/a] [displayed] message" ('946 Patent, Claims 1, 7, 8)	"less than [the/a] entire displayed message"
"preamble of independent claim 7" ('946 Patent, Claim 7)	The preamble is limiting; the communications network transmits radio frequency signals to, and receives radio frequency signals from, a mobile unit having a display and a switch actuatable to specify a portion of a displayed message for which a user desires retransmission after viewing the displayed message transmitted from the communications network.
"a [second/third] file of canned messages and message codes corresponding to the first file" ('506 Patent, Claims 1, 8)	"a [second/third] file of canned messages and message codes identical to the first file"
"a [fifth/sixth] file of canned multiple response options and response codes corresponding to the fourth file" ('506 Patent, Claim 12)	"a [fifth/sixth] file of canned multiple response options and response codes identical to the fourth file"

Dkt. No. 78, Ex. A; Dkt. No. 121, Ex. A at 12, 13, 19, 40-41 & 45-46.