

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

**COMCAST CABLE
COMMUNICATIONS, LLC, TV WORKS,
LLC, and COMCAST MO GROUP, INC.,
Plaintiffs,**

CIVIL ACTION

v.

NO. 12-859

**SPRINT COMMUNICATIONS
COMPANY, LP, SPRINT SPECTRUM,
LP, and NEXTEL OPERATIONS, INC.,
Defendants.**

**SPRINT COMMUNICATIONS
COMPANY, LP, and SPRINT
SPECTRUM, LP,
Counterclaim-Plaintiffs,**

v.

**COMCAST CABLE
COMMUNICATIONS, LLC, COMCAST
IP PHONE, LLC, COMCAST BUSINESS
COMMUNICATIONS, LLC, and
COMCAST CABLE COMMUNICATIONS
MANAGEMENT, LLC,
Counterclaim-Defendants.**

DuBois, J.

August 24, 2016

MEMORANDUM

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I. INTRODUCTION

This case involves claims of patent infringement between Comcast Cable Communications, LLC, and related entities (collectively “Comcast”), and Sprint Communications Company, L.P., and related entities (collectively “Sprint”). Comcast asserts claims for infringement of its U.S. Patent Number 6,885,870 against Sprint. Sprint asserts counterclaims for infringement of its U.S. Patents Numbers 6,754,907 and 6,757,907 against Comcast.

Presently before the Court are the parties' respective Supplemental Claim Construction Briefs, Motions for Summary Judgment, and *Daubert* Motions. Following a *Markman* hearing on supplemental claim construction and oral argument on the Motions, the Court construes the disputed claim terms and disposes of the Motions as set forth below.

II. PROCEDURAL BACKGROUND

Comcast initiated this action on February 17, 2012, by filing a Complaint against Sprint alleging infringement of four of its patents, including U.S. Patent Number 6,885,870 (“the ‘870 patent”).¹ On May 14, 2012, Sprint filed an Answer and Counterclaim,² alleging infringement of seven of its own patents, including U.S. Patents Numbers 6,754,907 (“the ‘4,907 patent”) and 6,757,907 (“the ‘7,907 patent”) (collectively “the ‘907 patents”).³ The Court has jurisdiction over this case under 28 U.S.C. § 1331 and 28 U.S.C. § 1338.

On June 6, 2012, Comcast filed a First Amended Complaint asserting claims for infringement of the ‘870 patent and three other patents.⁴ Sprint filed an Amended Answer and Counterclaim on June 25, 2012, asserting infringement of the same seven patents. Both parties withdrew their claims with respect to some patents prior to claim construction.⁵

In January and February 2014, the Court conducted five days of *Markman* hearings, which included technology tutorials and oral argument on the five patents then in the case. On

¹ In addition to the ‘870 patent, Comcast alleged infringement of its U.S. Patents Numbers 7,684,391, 5,987,323, and 6,112,305.

² Sprint’s counterclaims are permissive counterclaims unrelated to Comcast’s claims asserted under Federal Rule of Civil Procedure 13(b).

³ In addition to the ‘907 patents, Sprint alleged infringement of its U.S. Patents Numbers 7,602,886, 7,043,241, 7,054,654, 6,727,916, and 6,965,666.

⁴ In its First Amended Complaint, Comcast withdrew its claims for infringement of U.S. Patent Number 7,684,391 and asserted new claims for infringement of U.S. Patent Number 5,991,271.

⁵ Comcast withdrew its claims with respect to U.S. Patents Numbers 6,112,305 and 5,991,271. Sprint withdrew its claims with respect to U.S. Patents Numbers 7,602,886, 7,043,241, 7,054,654, and 6,965,666.

August 15, 2014, the Court issued a Memorandum and Order construing the claim terms in dispute. *See Comcast Cable Commc'ns, LLC, et al. v. Sprint Commc'ns Co., LP, et al. (Comcast v. Sprint I)*, 38 F. Supp. 3d 589 (E.D. Pa. 2014). Subsequently, Comcast withdrew all claims except for those alleging infringement of the '870 patent and Sprint withdrew all claims except for those alleging infringement of the '907 patents.

The parties then proceeded with fact and expert discovery. During the course of discovery, the parties informed the Court that they believed claim construction of two additional terms in the '870 patent, "cellular network" and "messaging server," was necessary.

On August 5, 2015, following the completion of almost all discovery, the parties filed a Joint Motion to Stay in light of ongoing global settlement negotiations between Comcast and Sprint, involving this case and litigation in other courts over claims for infringement of unrelated patents. The Court granted the Motion by Order dated August 13, 2015, and stayed the case for six months. Following the parties' report of the failure of the global settlement negotiations, the Court, by Order dated February 12, 2016, returned the case to the active docket and set a briefing schedule for motions for summary judgment, *Daubert* motions, and supplemental claim construction on the additional disputed terms in the '870 patent.

Given the complexity of the technology related to the patents in suit and by agreement of the parties, the Court again, as it did in connection with the first *Markman* hearings, appointed Dr. A. J. Nichols as technical advisor. Dr. Nichols has assisted the Court by explaining, when requested, the relevant technology required for claim construction and resolution of the summary judgment and *Daubert* issues. His role has been limited to that contemplated by the Order dated April 27, 2016, setting forth the authority for, and terms and conditions of, his appointment.

Pursuant to the Order dated February 12, 2016, the parties filed Motions for Summary Judgment, *Daubert* Motions, and Supplemental Briefs on Claim Construction of the disputed terms of the '870 patent. The Court conducted supplemental *Markman* hearings and oral argument on the pending Motions for Summary Judgment and *Daubert* Motions on June 22, 23, 24, and 29, 2016. The Court addresses in turn the issues presented by the motions with respect to the '870 patent and the '907 patents as set forth below.

III. COMCAST'S '870 PATENT

The parties have identified two additional disputed terms to be construed in the '870 patent, "cellular network" and "messaging server." The Court first construes these terms as set forth below.

The Court next addresses issues raised by the parties in their respective Motions for Summary Judgment relating to the eligibility for patenting of the '870 patent under 35 U.S.C. § 101 and the validity of the '870 patent under 35 U.S.C. § 102 and 35 U.S.C. § 112, paragraph 2. In summary, the Court denies Sprint's Motion for Summary Judgment with respect to the '870 patent, in which Sprint argued that the '870 patent is ineligible under § 101 and invalid as indefinite under § 112, ¶ 2. The Court grants Comcast's Motion for Summary Judgment on the ground of no anticipation under § 102 with respect to the Vuoristo reference, but denies Comcast's Motion for Summary Judgment on the ground of no anticipation under § 102 with respect to the GSM 3.60 and Huopaniemi references.

Next, the Court addresses the parties' cross-Motions for Summary Judgment as to Sprint's license to practice the '870 patent in some of its accused systems. The Court concludes as a matter of law that Sprint did not obtain a license, and grants that part of Comcast's Motion for Summary Judgment and denies that part of Sprint's Motion for Summary Judgment.

The parties also seek to exclude a number of experts in their respective *Daubert* Motions. The Court denies Comcast's Motion to Exclude Sprint's expert on infringement, Mark R. Lanning, and grants in part and denies in part Sprint's Motion to Exclude Comcast's expert on validity, Bruce H. Stoner Jr. The Court does not reach the issues presented by the parties' respective Motions to Exclude various damages experts, and defers them to a later date prior to trial, if necessary.

A. Background

The '870 patent, titled "Transferring of a Message," claims a method "for inquiring about information relating to a [wireless] terminal of a cellular network from the cellular network, from a messaging server external to the cellular network." '870 patent, at 2:45–48. The patent application was filed on February 22, 2001, but asserts priority to a Finnish patent application dated December 23, 1999. The patent issued on April 26, 2005. The inventor is Outi Aho, who assigned the patent to Nokia Mobile Phones, Ltd.

The patent purports to cover all types of "messaging services," but in a preferred embodiment relates to "the store-and-forward messaging of multimedia messages in a wireless telecommunications system." '870 patent, at 1:5–9. The patent describes the technological background of the invention as follows:

For a long time, the user of a computer terminal in communication with the Internet network has had the opportunity to retrieve multimedia components, such as pictures, text, short video clips and audio clips in electronic format, into his computer terminal from a server of the Internet network. As data transfer rates increase and the properties of mobile stations improve, an interest in a multimedia messaging service and messaging services in general has now also been awakened in wireless networks. As networks that support packet switched data transmission, the GPRS network and 3rd generation mobile communication networks, such as CDMA2000 . . . and WCDMA . . . in particular, are very well suited for the implementation of a multimedia messaging service.

'870 patent, at 1:49–63. The multimedia messaging service described in the patent is implemented through the use of a messaging server, which the patent describes:

A multimedia messaging service for 3rd generation mobile communications networks has been proposed which would be implemented . . . substantially in a store-and-forward manner by transferring messages addressed to a wireless terminal, stored in a specific messaging server, to the wireless terminal when it can be contacted. Said messaging server would preferably be located outside the cellular network in question, for example, in the Internet network.

'870 patent, at 1:64–2:6.

In the implementation of such multimedia messaging servers, the patent describes a problem:

[A] wireless terminal “attached” to the . . . network can transmit and receive short messages. The wireless terminal can transmit and receive data in packet switched mode if it is [connected to the network]

It is expedient for the messaging server to make specific inquiries to the . . . network from time to time. For example, on receiving a message addressed to a given wireless terminal, it is expedient for the messaging server to make sure, by making an inquiry, that the wireless terminal in question is actually ready to receive the message . . . before transmitting the message to the . . . network. In cellular networks, dynamic . . . addresses . . . are often allocated to terminals. In this case, a wireless terminal does not necessarily always have use of the same . . . address

When using dynamic . . . addresses there is a problem associated with performing the previously mentioned inquiry to identify said wireless terminal from outside the cellular network . . . : How can a wireless terminal be identified from outside the cellular network so that inquiries relating to the wireless terminal can also be carried out reliably when the wireless terminal has a dynamic . . . address?

'870 patent, at 2:8–41. As described in the '870 patent, the messaging server lacks certain information, specifically a dynamic internal network address, that it needs before a message can be forwarded into the cellular network to the wireless terminal. The patent proposes a method by which the messaging server external to a cellular network can inquire for information about a

wireless terminal (e.g., a phone) within the cellular network from servers internal to the cellular network.

The patent specification uses the Global System for Mobile Communications (“GSM”) cellular standard and the General Packet Radio Service (“GPRS”) of that standard to describe the preferred embodiment. *See* ‘870 patent, at 1:13–19. The preferred embodiment is a multistep method that is briefly summarized as follows:

1. A multimedia messaging service center (“MMSC”) receives and stores a multimedia message. ‘870 patent, at 6:14–16. The multimedia message may contain pictures, text, or video, and is addressed to an RFC822 (i.e., e-mail) address, in the standard form name@domain. ‘870 patent, at 6:47–61. Alternatively, the message may be addressed to a phone number, which is then converted by the MMSC to a corresponding e-mail address. ‘870 patent, at 6:62–64. In the preferred embodiment, the MMSC is located outside the GPRS system of GSM. ‘870 patent, at 6:65–66.

2. The MMSC maps the RFC822 address to a different address called an MMS-ID, which the patent describes as an identifier that is “external” to the cellular network. ‘870 patent, at 7:10–22.

3. The MMSC sends an inquiry into the GPRS to a server called the Gateway GPRS Support Node (“GGSN”) “to determine the readiness of the wireless terminal to receive data”. ‘870 patent, at 8:9–12.

4. The GGSN maps the MMS-ID to a corresponding international mobile subscriber identity (“IMSI”) that is specific to a subscriber identity module (“SIM”) card in the wireless terminal. ‘870 patent, at 8:22–25. The GGSN performs the mapping by “inquiring about the IMSI . . . that corresponds to [the] MMS-ID from [a] database, in which the correspondences

between the MMS-ID and the IMSI code of the wireless terminal are stored.” ‘870 patent, at 8:25–29.

5. The GGSN uses the IMSI to search its database to determine if the wireless terminal is currently connected to it. ‘870 patent, at 8:31–35. If so, the GGSN (1) retrieves from the database the current dynamic network address of the wireless terminal, and (2) determines whether the wireless terminal is ready to receive the multimedia message. ‘870 patent, at 8:35–39. If the desired wireless terminal is not connected to the GGSN, the GGSN inquires of another GPRS element, the home location register (“HLR”), for the identity of the GGSN to which the wireless terminal is connected, if any, and requests the information from that GGSN. ‘870 patent, at 8:66–9:6, 9:47–51.

6. The ultimate result of the process, regardless of the result of step 5, is that the GGSN sends a response message to the MMSC consisting of the information retrieved regarding the wireless terminal—viz. the status of the wireless terminal including its dynamic network address and current GGSN—and preferably including the MMS-ID, the external identifier used in the request. ‘870 patent, at 10:14–28.

7. The MMSC then sends the message to the wireless terminal at its dynamically assigned network address through the cellular network in packet-switched mode. ‘870 patent, at 11:7–10.

B. Asserted Claims

Comcast alleges that several of Sprint’s text messaging (“short message service” or “SMS”) and multimedia messaging (“multimedia messaging service” or “MMS”) systems infringe various claims of the ‘870 patent. Specifically, Comcast asserts infringement of Claims 1, 7, and 113.

Claim 1 claims:

A method for inquiring about information relating to a wireless terminal of a cellular network, from the cellular network by a messaging server external to the cellular network, wherein the method comprises:

- sending an inquiry from the messaging server to the cellular network to determine said information relating to the terminal, the inquiry comprising a first identifier identifying said terminal, the first identifier being a specific identifier external to the cellular network;
- mapping said first identifier to a specific second identifier in the cellular network, the second identifier being an internal identifier of the cellular network;
- determining said information relating to the terminal with the aid of said second identifier;
- sending a response message in response to said inquiry from the cellular network to said messaging server external to the cellular network, in which response message the information relating to said terminal is indicated with the aid of said first identifier.

Claim 7 claims the method in Claim 1, with the limitation that the information is determined in the third step by the same network element to which the initial inquiry is sent in the first step. Claim 113 has the same limitation as Claim 7 and adds the additional limitation that the mapping in the second step cannot be performed by the HLR. Because the parties agree that the eligibility and validity of all of the claims in the action are dependent on Claim 1, the Court will discuss the issues presented with reference to Claim 1 alone.

C. Prior Claim Construction

In the August 15, 2014, Memorandum and Order, the Court construed two terms in the '870 patent: "a specific identifier external to the cellular network" and "an internal identifier of the cellular network." *Comcast v. Sprint I*, 38 F. Supp. 3d at 629. The Court construed those terms as set forth in the following table:

Term	Construction
“a specific identifier external to the cellular network”	A specific identifier used outside and inside the cellular network to identify a specific wireless terminal
“an internal identifier of the cellular network”	An identifier used inside the cellular network to identify a specific wireless terminal, which may, but need not, be revealed outside the cellular network

D. Construction of Additional Disputed Terms

The parties have identified two additional claim terms that require construction: “cellular network” and “messaging server.”

1. Applicable Law

The scope of patent claims is a question of law to be decided by the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384–85 (1996). The Court is not bound by the constructions proposed by the parties. *See, e.g., Eisai Co., Ltd. v. Glenmark Pharm., Ltd.*, Civil Action No. 13-1279, 2015 WL 1228958, at *11 (D. Del. Mar. 17, 2015); *Thorn EMI N. Am., Inc. v. Intel Corp.*, 936 F. Supp. 1186, 1199 (D. Del. 1996).

Claim interpretation begins with the words of the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). “The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). “General descriptive terms will ordinarily be given their full meaning; modifiers will not be added to broad terms standing alone.” *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999). A disputed term must be interpreted in light of the claims as a whole, not in isolation, and “the context in which a term is used in the asserted claim can be highly instructive.” *Phillips*, 415 F.3d at 1314.

“[T]he specification is always highly relevant to the claim construction analysis” and “is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (citations and quotations omitted). “[C]laims must be construed so as to be consistent with the specification, of which they are a part.” *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed. Cir. 2003). “Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Phillips*, 415 F.3d at 1321.

However, limitations from the preferred embodiments or examples from the specification should not be read into the claims because “persons of ordinary skill in the art rarely would confine their definitions of terms to the exact representations depicted in the embodiments.” *Phillips*, 415 F.3d at 1321. There are two exceptions to this general rule: if the patentee sets out a special definition and “acts as his own lexicographer,” or if the patentee disavows the full scope of a claim term in the specification or during prosecution. *Thorner*, 669 F.3d at 1365. To act as his own lexicographer, “[i]t is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must clearly express an intent to redefine the term.” *Id.* With respect to a disavowal of scope, “[t]he claims must not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (citations and quotations omitted).

Beyond the patent’s claims and specification, extrinsic evidence may be useful “to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of [ordinary] skill . . . , or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. However, extrinsic

evidence is less reliable than the patent itself in determining the scope of the claims. *Id.* Unlike the specification, extrinsic evidence was not “created at the time of patent prosecution for the purpose of explaining the patent’s scope and meaning.” *Id.* Moreover, expert testimony created for the purpose of litigation is susceptible to bias. *Id.*

There is no precise formula for how a court should weigh the different sources of evidence. Nor is “[t]he sequence of steps used by the judge in consulting various sources . . . important.” *Phillips*, 415 F.3d at 1324. “[W]hat matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law.” *Id.*

2. “Cellular Network”

The parties have asked the Court to construe the term “cellular network” in the ‘870 patent and propose the following constructions:

“cellular network”	
Comcast’s proposed construction:	Sprint’s proposed construction
A network composed of: (a) a wireless terminal; (b) a base station system for communicating with the wireless terminal; and (c) a core network of subscriber databases, mobile switching centers, and packet-switching support nodes (if any), for routing communications between the base station system and external networks.	A network comprising a wireless terminal, a base station system, and core network elements that are interconnected using IP or other protocols.

The parties agree that the cellular network includes at least two elements, “a wireless terminal,” i.e. a phone or other mobile device, and “a base station system,” i.e. the antennas and related infrastructure required for communicating with wireless terminals via radio. In addition, the parties agree that the cellular network also includes a “core network,” made up of other

network elements connected to the base station system. The dispute is whether a person of ordinary skill in the art (“person of ordinary skill”) at the time of the ‘870 patent would understand the core network to be composed of a fixed set of types of network elements, regardless of the cellular standard implemented by the network operator, or comprised of an open-ended set of types of network elements, depending on the cellular standard implemented by the network operator.

Comcast argues that the core network should be composed of only three types of network elements: subscriber databases, mobile switching centers, and packet-switching support nodes. It is Comcast’s position that the specification of the ‘870 patent and the relevant extrinsic evidence support a narrowly defined cellular network that composes only those servers. Under Comcast’s construction of the term, messaging servers could never be internal to the cellular network, because they are not included in the closed set of network elements identified as composing the core network. The messaging servers in Sprint’s network that Comcast accuses of infringement would thus always be external to the cellular network, and Sprint could not argue non-infringement on the ground that its messaging servers are internal to its cellular network.

Sprint, by contrast, argues that the core network should be defined in an open-ended manner to include a variety of network elements. It is Sprint’s position that the lack of specific definition of “core network” in the specification and the relevant extrinsic evidence from non-GSM networks support a broadly defined cellular network that comprises a variety of possible network elements. Under Sprint’s construction of the term, messaging servers could be internal to the cellular network, and whether a particular messaging server was internal or external would present an infringement question for the finder of fact. Because the ‘870 patent only covers the

method when practiced using an external messaging server, the jury would determine whether Sprint's accused messaging servers infringe the patent.

Sprint argues that the patentee intended to be her own lexicographer and provide a special definition for the term cellular network. *See* Sprint Opening Brief at 5. The Court disagrees. The patentee's only attempt to define the cellular network in the patent is the reference to the GPRS and the "core network elements" of other third-generation networks. *See* '870 patent, at 4:29–35. This does not amount to a clear "intent to redefine the term." *See Thorner*, 669 F.3d at 1365. Thus, the Court concludes that the patentee intended to give the term its "ordinary and customary meaning as understood by a person of ordinary skill . . . when read in the context of the specification." *See id.*

Having concluded that cellular network has its "ordinary and customary meaning," the Court must determine how a person of ordinary skill at the time of the patent application would understand the term. The Court begins with the language of Claim 1, which uses the term cellular network eight times but provides little guidance as to the interpretation of the term. From the language of Claim 1, the Court draws two conclusions. First, a "wireless terminal" is part of the cellular network. *See* '870 patent, at 14:35 ("a wireless terminal *of* a cellular network"). Second, the use of the adjective "external" in the claim when referring to the position of a messaging server vis-à-vis the cellular network, *see, e.g.*, '870 patent, at 14:35–36 ("a messaging server *external* to the cellular network"), implies that some messaging servers are not external to the cellular network, or there would be no need to describe the messaging server in the claims as external. *See Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) ("While not an absolute rule, all claim terms are presumed to have meaning in a claim.").

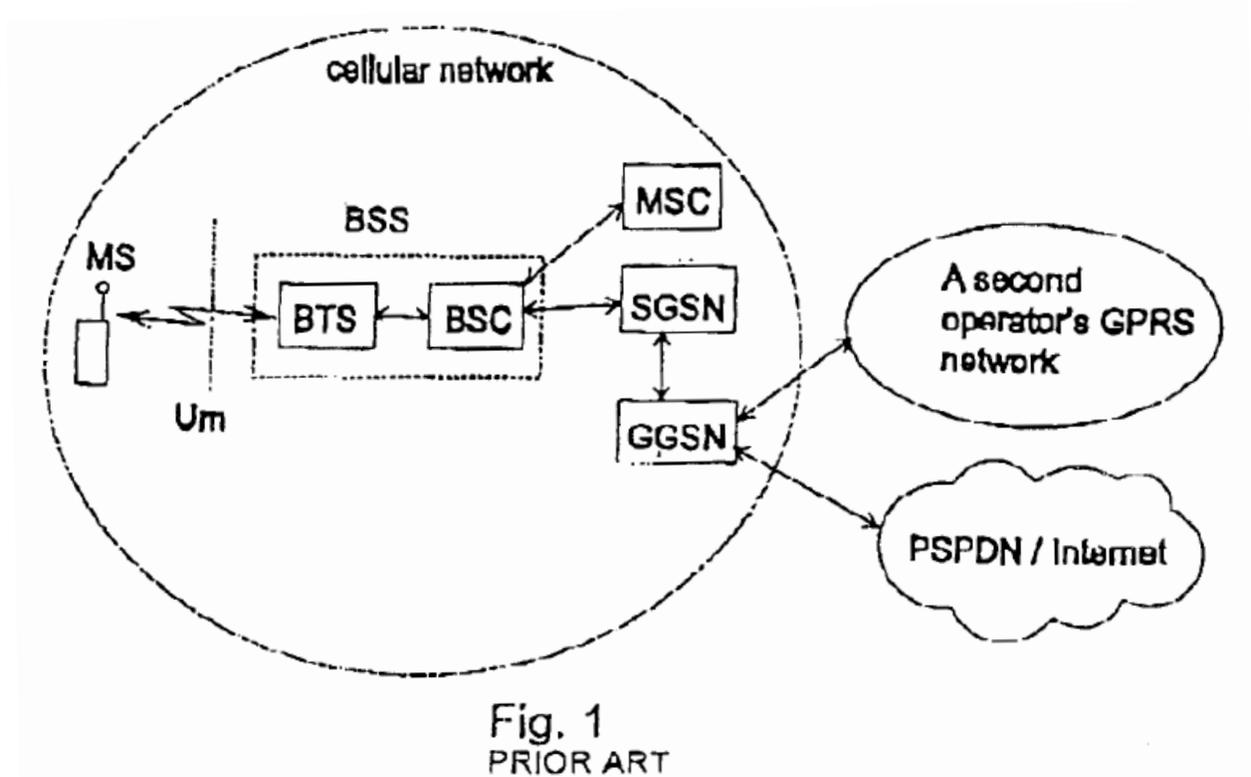
In addition to a wireless terminal, the Court concludes that Claim 1 of the ‘870 patent implies that a base station system must also be included in the cellular network. A base station system, the parties agree, is necessary to allow communication between the wireless terminal and other elements of the cellular network. Furthermore, as will be discussed below, the specification includes the base station system within the cellular network in the preferred embodiment in the GPRS. ‘870 patent, at 1:30–33.

The claims also require that some other network elements be part of the cellular network, because the wireless terminal and base station system are not capable of performing the method. Accordingly, the Court must determine what else, other than the wireless terminal and the base station system, is included in the cellular network. Because the claims themselves do not resolve this issue, the Court turns to the specification. The patentee explains that for purposes of the patent “the concept of a cellular network should be *interpreted broadly*.” ‘870 patent, at 4:29–30 (emphasis added). Furthermore, “the concept of a cellular network is also considered to cover, for example, the GPRS service of a GSM network and the network elements of the *core network* of a 3rd generation network.” ‘870 patent, at 4:32–35 (emphasis added).

From the specification, it is clear that in the preferred embodiment, the elements of the GPRS are within the cellular network. ‘870 patent, at 4:32–34 (“[T]he concept of a cellular network is also considered to cover . . . the GPRS service of a GSM network . . .”). The elements of the GPRS, as identified in the specification and Figures 1 and 2 of the ‘870 patent, provide a useful starting point in determining what elements are in the cellular network.

Figure 1 of the ‘870 patent, shown below, depicts what the patentee describes as “the interconnections of a telecommunications network in a packet switched GPRS service” in the

prior art, and includes a subsection of elements designated as the “cellular network.” ‘870 patent, at 1:20–21.



The patent describes several elements as comprising the GPRS in the prior art. First, GPRS support nodes, including serving GPRS support nodes (“SGSN”), which “transmit[] data packets to a wireless terminal . . . and receive[] data packets transmitted by a wireless terminal through a base station system[,]” and gateway GPRS support nodes (“GGSN”), which “communicate[] with the SGSN” and “provide[] a connection to and enable[] cooperation with other networks” ‘870 patent, at 21–44. Second, the patent describes “mobile switching centers” (“MSC”), which are the equivalent of the GPRS support nodes “in connection with circuit

switched data transmission.”⁶ Third, Figure 1 of the ‘870 patent includes a home location register (“HLR”), which “contains the routing information and the GPRS subscription information of the wireless terminal” ‘870 patent, at 5:27–29.

Figure 2 of the patent, shown below, which depicts a preferred embodiment of the invention in the GPRS of GSM, also provides guidance as to what elements are inside the cellular network.

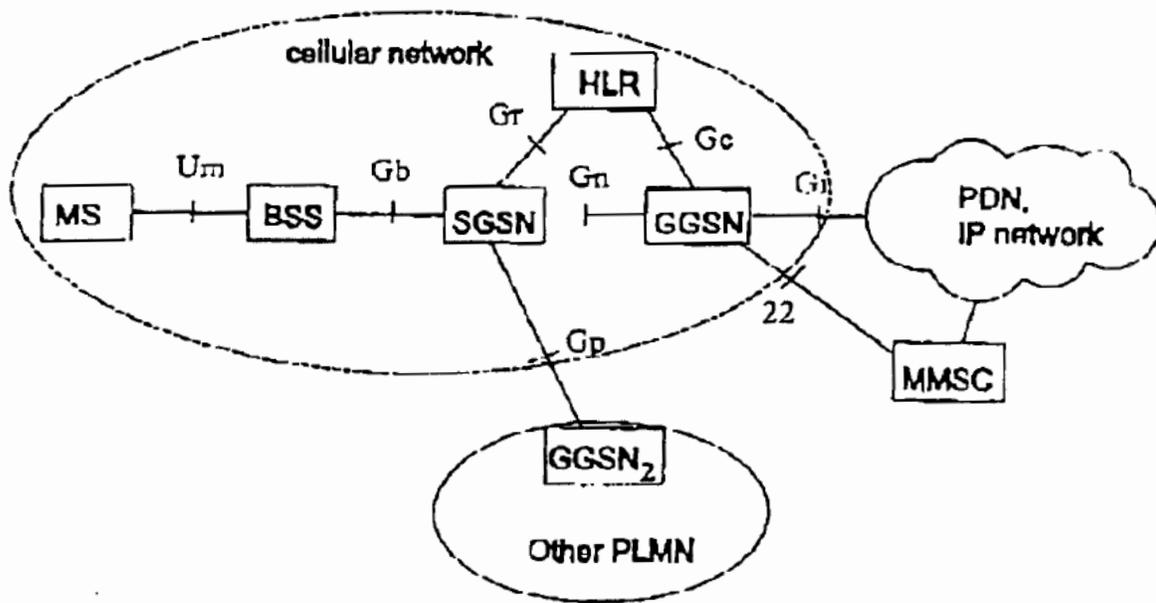


Fig. 2

Inside the oval delineating the bounds of the cellular network, Figure 2 includes a wireless terminal (“MS”), a base station system (“BSS”), and three other network elements, a serving GPRS support node (“SGSN”), home location register (“HLR”), and a gateway GPRS support node (“GGSN”). In Figure 2, the multimedia message service center (“MMSC”), the messaging

⁶ The ‘870 patent is directed to implementation in a packet-switched network. The network is called a “packet-switched” network because the network routes data in individual “packets” to and from various network elements. Such networks are distinct from the earlier technology of “circuit-switched” networks, such as the voice telephony network, in which network elements, e.g. the two phones in a phone call, are connected by a dedicated path, or circuit, that functions as if two elements were directly wired to one another.

server in the preferred embodiment, is placed outside the cellular network. The specification explains that in the preferred embodiment “[t]he MMSC is located outside the cellular network, preferably in the Intranet network of the operator.” ‘870 patent, at 5:65–66.

Because the patent describes only one GSM embodiment, the Court also looks to extrinsic evidence to determine how a person of ordinary skill would understand the term cellular network at the time of the ‘870 patent application. GSM specifications in the prior art include a set of elements in the GPRS similar to those shown in Figures 1 and 2 of the ‘870 patent. *See* Comcast Mot. for Summ. J., Ex. 21, Digital cellular telecommunications system; General Packet Radio Service; Service Description; Stage 2; GSM 3.60 version 6.3.2 Release 1997 (hereinafter “GSM 3.60”). The GSM standard includes five elements that make up the “logical architecture”⁷ of the GPRS: a wireless terminal, BSS, SGSN, GGSN, and HLR. GSM 3.60, at 13, 21. The GSM standard also describes two additional HLR-like databases, a “visitor location register” (“VLR”) and an “equipment identity register” (“EIR”). Figure 2 of GSM 3.60 is shown below, which depicts an “overview of the GPRS logical architecture.”

⁷ “Logical architecture” means the functional elements required to meet the standard. This is distinct from physical architecture, meaning the actual computers or servers that perform the functions and their placement in physical space.

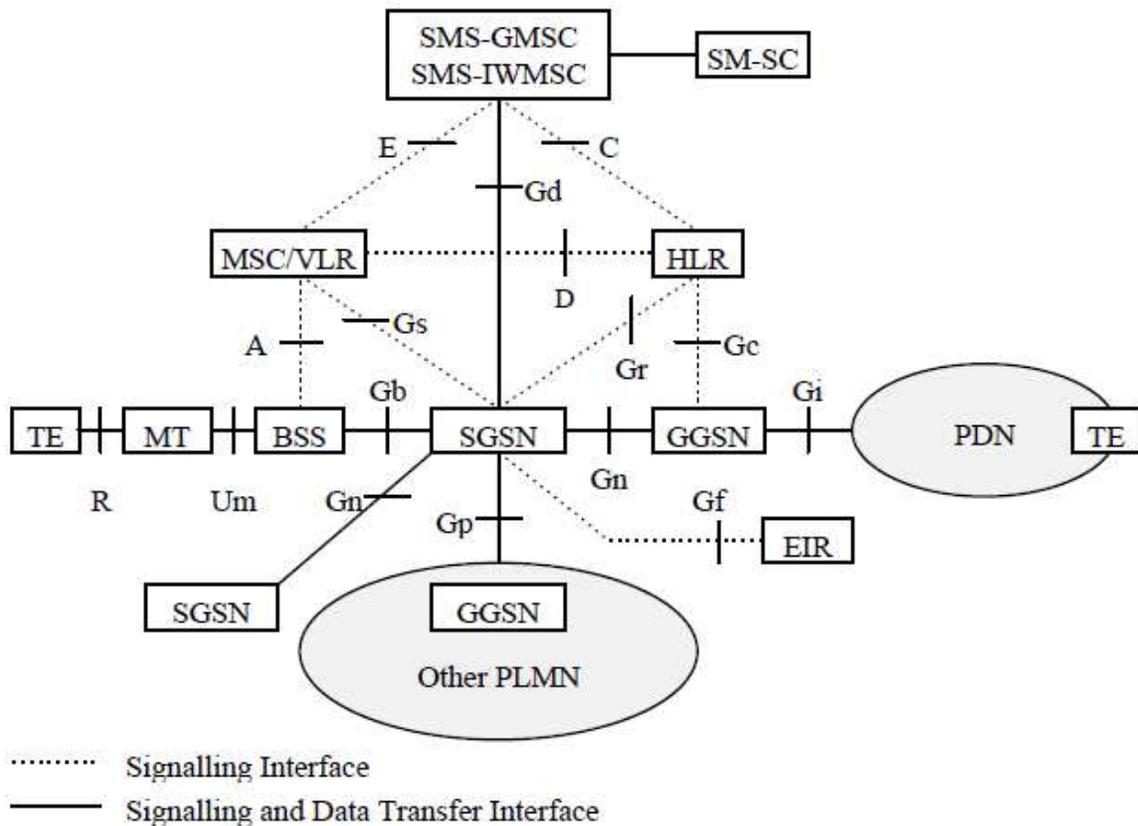


Figure 2: Overview of the GPRS Logical Architecture

In addition to the above-described elements, the logical architecture of the GPRS includes a server connected to the SGSN called the short message service gateway message service center (“SMS-GMSC”). *Id.* The SMS-GMSC sends certain inquiries in the cellular network for purposes of facilitating transfer of SMS messages and is connected directly to a network element that stores and forwards the SMS messages. *Id.* at 13. At the supplemental *Markman* hearing, Comcast agreed that this disclosed a messaging server in the GPRS that “could straddle the cellular network,” and be, at least in part, within the cellular network. June 22, 2016, PM Hr’g Tr., at 55:15–17; 78:15–79:18.

Based on the specification and the GSM-related prior art, the Court concludes that in the GPRS preferred embodiment, the cellular network is comprised of the wireless terminal, BSS, GPRS support nodes (SGSN and GGSN), HLR/VLR/EIR, and SMS-GMSC. However, the

patentee clearly did not intend to be limited to the GPRS implementation. The patentee states that the term cellular network is “considered to cover” the GPRS, but is to be “interpreted broadly.” ‘870 patent, at 4:28–34. This leaves open the possibility that other elements may be in the cellular network in a non-GSM network. The patentee explains that the cellular network should also include the “core network” of any other “third generation network.” ‘870 patent, at 4:33–34.

Because of the clear intent of the patentee to incorporate other third-generation cellular standards, a person of ordinary skill would understand the term cellular network to encompass the elements of a cellular network as defined in those standards. The patentee explicitly refers to one of the third-generation standards, CDMA2000, that was under development at the time of the ‘870 patent. ‘870 patent, at 1:59–63 (“3rd generation mobile communications networks, such as CDMA2000 . . . are very well suited for the implementation of a multimedia messaging service.”). Because the patent specification does not explain what elements are included in cellular networks other than the preferred embodiment in GSM, the Court turns to extrinsic evidence. Critically, the CDMA2000 standard includes elements in the cellular network that are not in Comcast’s proposed construction.

Prior art CDMA2000 standard documents describe a “Network Reference Model,” shown below, that has the same purpose as the Overview of the GPRS Logical Architecture in GSM 3.60 and “presents the functional entities and the associated reference points that may logically comprise a cellular network.” Sprint Opening Claim Construction Brief, Ex. D, Cellular Radiotelecommunications Intersystem Operations (hereinafter “CDMA2000 1997”), at 1-24.

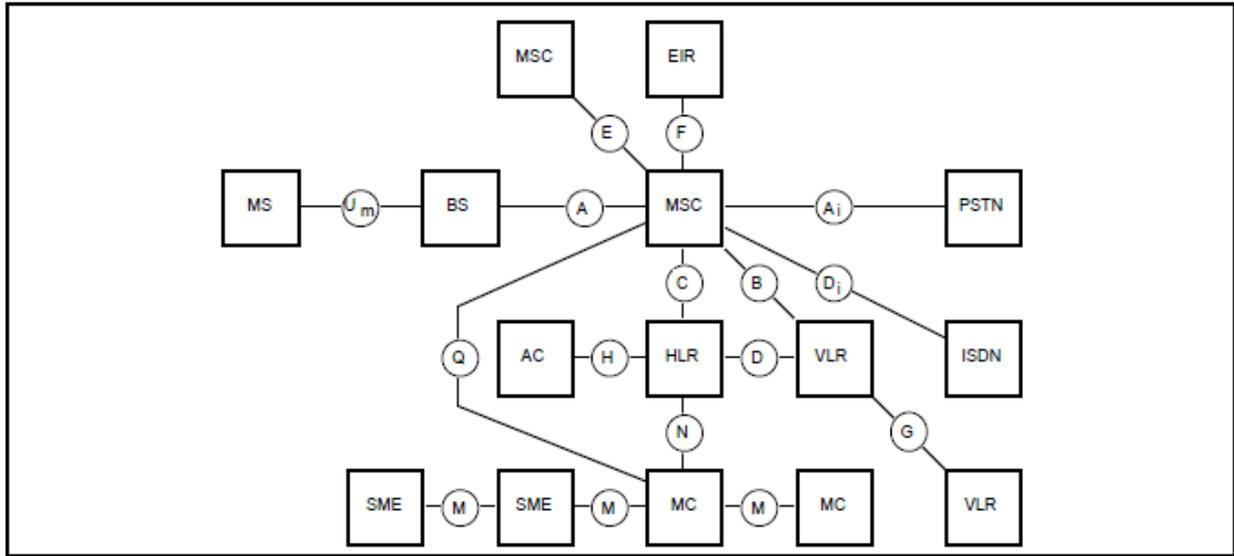


Figure 2 Network Reference Model

Within the Network Reference Model of CDMA2000 1997, the standard includes a wireless terminal (“MS”), a base station system (“BS”), mobile switching centers (“MSC”), and an HLR. *Id.* The Network Reference Model also includes two other HLR-like databases, the “equipment identity register” (“EIR”), which is a “register to which user equipment identity may be assigned,” and the “visitor location register” (“VLR”), which contains information relating to “visiting subscribers.” CDMA2000 1997, at 1-25–26. In addition, the standard describes two additional elements, the “message center” (“MC”), which “stores and forwards short messages,” and the “short message entity” (“SME”), which “composes and decomposes short messages.” *Id.*

Subsequent CDMA2000 standards similarly include message centers within the network reference model. *See* Sprint Opening Claim Construction Brief, Ex. E, Network Reference Model for CDMA2000 Spread Spectrum Systems, Revision A (hereinafter “CDMA2000 1999”), at 3. The Network Reference Model of CDMA2000 1999 is depicted below:

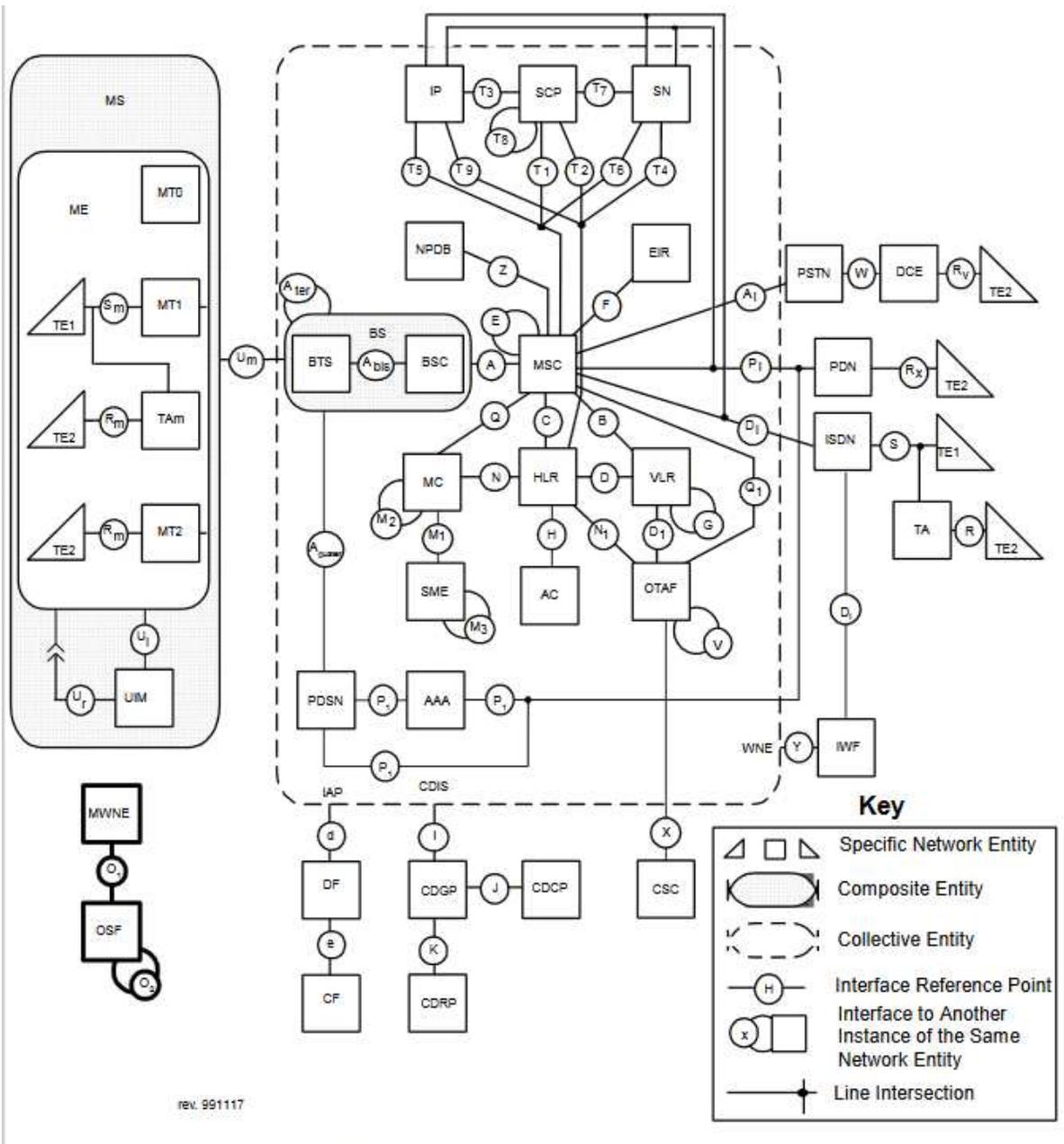


Figure 2.1 3GPP2 Wireless Network Reference Model

In the Network Reference Model of CDMA2000 1999, the “collective entity” of the CDMA2000 network is defined to include the BSS, MSC, and HLR/VLR/EIR. *Id.* In addition, the MC and SME are included. *Id.* The collective entity also includes various other elements, including elements that serve authentication functions (“Authentication, Authorization, and Accounting,” or “AAA”; “Authentication Center,” or “AC”; and “Service Control Point,” or

“SCP”), or support other features, such as voice messaging and fax (“Intelligent Peripheral,” or “IP”). *Id.* at 3–9.

Upon consideration of the ‘870 patent’s claims and specification and the relevant extrinsic evidence, the Court rejects Comcast’s proposed construction. Comcast’s construction relies, almost entirely,⁸ on Figures 1 and 2 of the ‘870 patent, which depict the preferred embodiment of the patent in the GPRS. Comcast’s proposed construction of the term seeks to read the limitations of the preferred embodiment into the claims by limiting the term cellular network to only the elements included in the GPRS. Such a construction is disfavored absent express intent of the patentee to limit the full scope of the claim. *See Williamson*, 792 F.3d at 1346–47 (cautioning against “limiting the claimed invention to preferred embodiments or specific examples in the specification”). In the ‘870 patent, in contrast, the patentee stated an express intent not to limit the scope of the term cellular network to the GPRS. ‘870 patent, at 4:33–35.

Comcast further argues that the term cellular network should be given its plain and ordinary meaning. The Court agrees that the term has a plain and ordinary meaning, but disagrees that the plain and ordinary meaning is what Comcast argues. Because the patentee expressly did not limit her claims to the GSM preferred embodiment, a person of ordinary skill would understand the term to include the elements of cellular networks in different cellular standards. Clearly, the CDMA2000 standard includes different elements in its cellular network, as described in the Network Reference Models, than the GSM standard includes in the GPRS. A person of ordinary skill at the time of the ‘870 patent could look at either Figure 2 of GSM 3.60

⁸ The other extrinsic evidence upon which Comcast relies is comprised of textbooks and other documents, all of which describe networks in the GSM family, and not networks in the CDMA2000 family. *See Comcast Resp. Claim Construction Br.*, at 13–15.

or Figure 2 of CDMA2000 1997 to determine what network elements logically comprise a cellular network in each standard respectively. Thus, the Court concludes that a person of ordinary skill would not limit the term cellular network to a fixed list of elements, but instead would understand that the elements of the cellular network would vary depending on the cellular standard implemented.

Comcast's construction also reads limitations out of the claims because it would *per se* exclude messaging servers from being an element of the cellular network. As previously discussed, the claims use the adjective "external" to refer to the messaging server used in implementing the claimed method. This implies that the messaging server may also be somewhere not external to the cellular network. At the supplemental *Markman* hearing, Comcast took the position that the prior art disclosed only external messaging servers and messaging servers that "straddled" the cellular network, but not internal messaging servers. *See* June 22, 2016, PM Hr'g Tr., at 56:14–57:3. In support of this argument, Comcast relied on the GSM cellular standards, which included the SMS-GMSC as part of the GPRS. *See* GSM 3.60, at 19. Comcast's argument fails to acknowledge the non-GSM prior art, such as the CDMA2000 network standards, which indicate messaging servers as possible elements of the cellular network. Moreover, even assuming *arguendo* that the prior art was limited to the GSM specifications and related documents, Comcast acknowledged that at least some of a messaging server's functionality could be located inside the cellular network in GSM prior art. June 22, 2016, PM Hr'g Tr., at 80:3 ("The messaging server crosses the boundaries."). Thus, from these GSM disclosures, a person of ordinary skill would understand that messaging servers were not *per se* excluded from being part of a cellular network.

Further, the Court rejects Comcast's argument that the possibility of messaging servers internal to the cellular network renders the '870 patent internally inconsistent. Comcast takes the position that if messaging servers could be internal to a particular CDMA2000 network, the patentee's statement that the method can be applied in a CDMA2000 network is contradictory. '870 patent, at 1:60. Comcast argues that implementation of the method in the CDMA2000 network would be impossible with internal messaging servers. Comcast Resp. Claim Construction Br., at 4.

The Court disagrees. There is no contradiction between the specification and the claims because of the *possibility* that a messaging server could be internal in some cellular networks. The specification only says that implementation of the method in CDMA2000 is possible, not that it is required. The method may be implemented in cellular networks, including CDMA2000 networks, in which the messaging server is external to the cellular network. As discussed above, the Court must give effect to the scope of the claims, and not read limitations of the specification into the claims absent the express intent of the patentee to do so. *See Thorner*, 669 F.3d at 1365.

Finally, Comcast argues that the CDMA2000 network reference models relied on by Sprint include different network elements at different stages in the development of the standard. However, nothing in the claims or specification of the '870 patent precludes the term from having a meaning that changes over time. In fact, the specification expressly provides that the method can be implemented in new third-generation cellular standards, CDMA2000 and WCDMA, which were still in development at the time of the '870 patent application. '870 patent, at 1:59–63. A person of ordinary skill at the time of patenting would understand that the scope of the term cellular network varies as cellular networking standards evolve over time.

Having rejected Comcast's proposed construction, the Court turns to Sprint's construction. Sprint proposes an open-ended construction of cellular network, defined as "a network comprised of a wireless terminal, a base station system, and core network elements that are interconnected using IP or other protocols." At the supplemental *Markman* hearing, Sprint admitted that the phrase "interconnected using IP or other protocols" provides no additional limitation on "core network elements" because all networks are interconnected using protocols. June 22, 2016, PM Hr'g Tr., at 92:11–25. Thus, the Court will not include this superfluous language.

The Court agrees with Sprint that a nonexclusive construction of the cellular network is appropriate. The Court relies on the '870 patent's use of the phrase "network elements of [a] core network." '870 patent, at 4:33. "Core" is a common word that will be understood by a lay jury⁹, but the Court concludes that additional clarification is necessary to explain the meaning of the term as it would be understood by a person of ordinary skill at the time of patenting.

To provide clarity as to what elements may be "core network elements," the Court concludes that the construction should provide a nonexclusive list of core network elements. One core network element is a "subscriber database." One example of such a subscriber database is the HLR, but other examples include similar databases such as the VLR or EIR. Second, mobile switching centers and packet switching nodes, the servers that are involved in circuit switching or packet routing between the base station system and other networks, are core network elements. This group of servers includes the packet switching support nodes described in the '870 patent, such as the GGSN and the SGSN, but may also include servers such as the SMS-

⁹ Comcast argues that an open-ended construction reads the word "core" out of the claim. The Court disagrees because a person of ordinary skill would understand that different cellular networks include different core network elements.

GMSC in the GSM standard. Third, messaging servers may be a core network element, as in the messaging center of the CDMA2000 standard.

Core network elements may also include intelligent network elements that provide additional functionality to the cellular network, such as voice messaging or other features, or additional servers involved in authentication. However, the Court concludes that including these elements, which are not relevant to the method claimed in the ‘870 patent, is not necessary to clarify the scope of the term.

For these reasons, the Court rejects both parties’ proposed constructions and construes the term “cellular network” as “a network comprised of a wireless terminal, a base station system for communicating with the wireless terminal, and core network elements, which may include subscriber databases (such as a home location register), mobile switching centers, packet switching nodes, and messaging servers.”

3. *“Messaging Server”*

The parties have asked the Court to construe the term “messaging server” in the ‘870 patent and propose the following constructions:

“messaging server”	
Comcast’s proposed construction	Sprint’s proposed construction
A server that includes functionality for storing and forwarding an SMS or MMS message and for sending an inquiry for information relating to a wireless terminal.	A server that stores and forwards messages addressed to a wireless terminal.

The parties agree that the messaging server must have store and forward functionality. The ‘870 patent is clear that the messaging server has the ability to send and forward messages to a wireless terminal. ‘870 patent, at 1:66–2:2. The dispute with respect to this term is whether the

messaging server is defined solely by its ability to store and forward messages, or whether the term should also be construed to require the ability to send an inquiry.

The claims require that the messaging server send inquiries. Claim 1 of the '870 patent claims a method “for inquiring about information . . . by a messaging server.” The first step in the method is “sending an inquiry from the messaging server.” Thus, the claims require that the messaging server have the ability to send an inquiry.

The specification further supports construing a messaging server to have the capability to send inquiries. The '870 patent describes a preferred embodiment, a new multimedia messaging service center (“MMSC”). '870 patent, at 1:64–65; 5:25–27. While the MMSC is not the invention of the '870 patent, it is clear that the '870 patent intends the term “messaging server” to have all of the functionalities of the MMSC. In describing the messaging server, the patentee explains that “it is expedient for the messaging server to make specific inquiries to the [cellular] network from time to time.” '870 patent, at 2:16–17. The use of the term “expedient,” while not dispositive of the issue, suggests that the feature is mandatory, in light of the specification’s use of the word “preferable” to describe optional features. *Compare* '870 patent, at 2:16–17 with '870 patent, at '870 patent, at 2:4–6 (“Said messaging server would preferably be located outside the cellular network . . .”). Moreover, the patent does not discuss any messaging servers that lack the capability to send inquiries.

The extrinsic evidence relied on by both parties in the dispute over the term cellular network supports a construction that requires the messaging server to have the ability to both store and forward, and send inquiries. For example, with regard to the GSM 3.60 specification, *see supra* Section III.A.2, both parties agree that the combination of (1) the short message service gateway message service center (“SMS-GMSC”) and (2) a store and forward messaging

server (“SM-SC”) together constitute the messaging server of the ‘870 patent. *See* June 22, 2016, PM Pt. 1 Hr’g Tr., at 57:9–14 (counsel for Comcast); June 23, 2016, AM Hr’g Tr., at 27:21–25 (counsel for Sprint). Moreover, the message center in the CDMA2000 specification both stores and forwards messages, and sends inquiries. CDMA2000 1997, at 1-25; CDMA2000 1999, at 7; *see also* June 23, 2016, AM Hr’g Tr., at 27:21–28:6 (counsel for Sprint) (“[M]essaging servers . . . existed in the prior art [that] did both things, in other words they stored and forwarded and they inquired [W]e showed you the CDMA2000 architecture yesterday. Certainly the case there.”).

Comcast also includes the limitation that the messaging server store and forward only “SMS and MMS messages.” The Court finds no support for this limitation in the ‘870 patent. The claims and specification do not limit the type of messages stored and forwarded by the messaging server. The method described in the ‘870 patent could just as easily be used in connection with e-mail or any other messaging system.

For these reasons, the Court adopts Comcast’s proposed construction, with the modification described above, and construes the term “messaging server” as “a server that has functionality for storing and forwarding messages and for sending an inquiry for information relating to a wireless terminal.”

E. Motions for Summary Judgment Related to Eligibility and Validity

1. Sprint’s Motion for Summary Judgment of Ineligibility under 35 U.S.C. § 101

In its Motion for Summary Judgment, Sprint argues that the ‘870 patent is ineligible for patenting under § 101 of the Patent Act because it is directed to an abstract idea. For the reasons that follow, the Court denies this part of Sprint’s Motion for Summary Judgment and concludes that the asserted claims of the ‘870 patent are eligible under § 101.

a. Legal Standard

§ 101 of the Patent Act¹⁰ provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101. There is an “important implicit exception” to the broad scope of § 101: “laws of nature, natural phenomena, and abstract ideas are not patentable.” *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013).

The Supreme Court has created a two-step “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)). First, the court must “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* Second, if the claims are directed to a patent-ineligible concept, the court must “determine whether the additional elements transform the nature of the claim into a patent-eligible application.” *Id.* (quotations omitted). Whether a claim is ineligible under § 101 is a question of law that may be resolved at the summary judgment stage of a case. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 712–13 (Fed. Cir. 2014).¹¹

¹⁰ All citations throughout are to the pre-America Invents Act (“AIA”) codification of the Patent Act because the patents in suit predate the effective date of the AIA. Leahy-Smith American Invents Act, Pub. L. No. 112-29, § 35, 125 Stat. 284, 341 (2011).

¹¹ The majority of district courts to consider the issue have concluded that the statutory presumption of validity does not apply. *See, e.g., Intellectual Ventures I LLC v. Symantec Corp.*, 100 F. Supp. 3d 371, 379 fn. 5 (D. Del. 2015). While the Supreme Court has not yet addressed the question of the burden of proof, it has treated § 101 as an issue of *eligibility* for patenting, as opposed to an issue of patent *validity*. *Id.* Thus, the applicable burden of proof for any subsidiary questions is the preponderance of the evidence standard, rather than the clear and convincing evidence standard. *Id.* However, the Court does not reach this issue because the outcome of the § 101 analysis in this case is the same regardless of which standard of proof applies.

b. 35 U.S.C. § 101 Step One

The Court concludes that the asserted claims in the ‘870 patent¹² are not directed to an abstract idea, but rather implement a specific improvement in cellular networking.

At step one of the *Alice* framework, the court must determine whether the claims are “directed to a patent-ineligible concept.” *Alice*, 134 S. Ct. at 2355. At issue in this case is the abstract ideas exception to patent eligibility. “The abstract ideas category embodies the longstanding rule that an idea of itself is not patentable.” *Id.* (citations and quotations omitted). The Supreme Court has not created a clear rule to determine when a patent is directed to an abstract idea, but has identified some claims that are clearly ineligible because they are directed to an abstract idea. For example, “claims involving an algorithm for converting binary-coded decimal numerals into pure binary form” and “a method for hedging against the financial risk of price fluctuations . . . [which] described the basic concept of hedging or protecting against risk” are ineligible. *Id.* (citing *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972); *Bilski v. Kappos*, 561 U.S. 593, 599, 611 (2010)) (internal quotations omitted). In *Alice*, the Supreme Court concluded that claims to a “computer-implemented scheme for mitigating settlement risk” are ineligible as directed to the abstract idea of “intermediated settlement.” *Id.* at 2352, 2355.

To determine whether a claim is ineligible, “the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). “Methods which can be performed entirely in the human mind are unpatentable” *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011). Claims that “simply add[] conventional

¹² Because the parties agree that the eligibility of the asserted dependent claims, Claim 7 and Claim 113, is predicated on the eligibility of Claim 1, the Court will not address the dependent claims separately.

computer components to well-known business practices” are not eligible. *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 612 (Fed. Cir. 2016). Likewise, claims are not eligible if they are “directed to the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem presented by combining the two.” *Id.* In determining whether a patent claims “conventional or generic technology,” the court must look to whether the specification provides “technical details” or “predominately describes the system and methods in purely functional terms.” *Id.*

However, “the ‘directed to’ inquiry . . . cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016); *see Alice*, 134 S. Ct. at 2354 (“[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.”). Claims “purporting to improve the functioning of the computer itself” or “improving an existing technological process” are not directed to an abstract idea. *Enfish*, 822 F.3d at 1335. “[T]he first step in the *Alice* inquiry . . . asks whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or instead on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Id.* at 1335–36.

The United States Court of Appeals for the Federal Circuit has upheld claims where it determined that the claimed invention solved “a challenge particular to the Internet.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256–57 (Fed. Cir. 2014). The *DDR* court stated “[a]lthough the claims address a business challenge (retaining website visitors), it is a challenge particular to the Internet.” *Id.* at 1257. The method involved in that case resulted in the website “operating” differently from “its normal, expected manner”: “instead of the computer

network operating in its normal, expected manner by sending website visitor[s] to the third-party website that appears to be connected with the clicked advertisement, the claimed system generates and directs the visitor to the above-described hybrid web page” *Id.* at 1259.

“[T]he claims recite an invention that is not merely the routine or conventional use of the Internet.” *Id.*

In this case, Sprint argues that the claims are directed to the abstract idea of “matching identifiers to retrieve information.” Sprint Br. in Supp. of Mot. for Summ. J., at 12. Sprint argues that the claims of the ‘870 patent implement an “ordinary business practice.” *Id.* at 14.

Specifically, Sprint analogizes to a customer of a bank and a bank teller.

[W]hen a customer goes to the bank to retrieve her account balance, the bank teller needs the customer’s bank account number because the customer’s information is tied to her account. But the customer may not know or remember her bank account number. To remedy the issue, the customer provides a different identifier that she knows—her home address, phone number, or social security number, for example. The bank teller then matches that identifier with the customer’s internal identifier—her bank account number—in order to retrieve the requested information. The teller will then hand the customer a receipt containing her account number and her balance.

Id.

The Court declines to adopt Sprint’s analogy and rejects Sprint’s argument that the ‘870 patent is directed to an abstract idea. At the outset, the Court observes that the ‘870 patent does not present a clear-cut case at *Alice* step one because the patent does not claim a known economic or business practice implemented on a generic computer. *See Alice*, 134 S. Ct. at 2359 (finding claims ineligible which “simply instruct[ed] the practitioner to implement the abstract idea of intermediated settlement on a generic computer”); *see also DDR Holdings*, 773 F.3d at 1256 (“In some instances, patent-ineligible abstract ideas are plainly identifiable and divisible from the generic computer limitations recited by the remainder of the claim.”). The claims in the

'870 patent do not claim a method of “matching identifiers to retrieve information” on a generic computer, or even in a generic cellular network. The cellular network is not “invoked merely as a tool” to implement matching identifiers to retrieve information. *See Enfish*, 822 F.3d at 1336. Rather, the claims set out a method for achieving a specific goal—obtaining information about a wireless terminal with a dynamic network address—by *applying* the abstract idea of matching identifiers to retrieve information in the cellular network.

Nor are the claims of the '870 patent analogous to those in *TLI Communications*, which claimed the “abstract idea of classifying and storing digital images in an organized manner.” 823 F.3d at 613. In that case, the patent purported to add a new feature to cellular phones: the ability to upload and categorize digital images. *Id.* at 609. To do so, the patent claimed a method in which images were “recorded” on the phone, “stored” in “a digital form,” “transmitted” to a server, “received” by the server, classified by the server by “characterizing” the digital images, and stored by the server “taking into consideration the classification information.” *Id.* at 610. The Federal Circuit explained that the concept of “attaching classification data, such as dates and times, to images for the purpose of storing those images in an organized manner is a well-established ‘basic concept’” and that limiting the implementation to “a mobile telephone system” did not save the claims. *Id.* at 613. In reaching that conclusion, the court focused on the alleged improvement, allowing a cellular network to organize images. *Id.* at 613–14. The court emphasized that the key steps to achieving this improvement, “extracting classification information,” “storing,” and “taking into consideration,” were described in purely generic terms, without details in the claims or specification to explain how each of these steps improved known computer functionality. *Id.* at 614–15.

The '870 patent, unlike the patent in *TLI*, does more than describe the invention in generic terms; it provides a detailed method to implement the invention. The patent solves a specific problem in prior art cellular networks: “[h]ow can a wireless terminal be identified from outside the cellular network so that inquiries relating to the wireless terminal can also be carried out reliably when the wireless terminal has a dynamic . . . address?” ‘870 patent, at 2:36–41. The problem is unique to a cellular network implementation in which network elements outside the cellular network do not know the network address of a wireless terminal inside the network and therefore are unable to send information to that wireless terminal directly. The claims provide a method by which the messaging server can request the dynamic address of the wireless terminal (sending an inquiry containing an external identifier), and the cellular network can provide the dynamic address (by mapping an external identifier to an internal identifier and retrieving information using the internal identifier). ‘870 patent, at 14:43–48.

The claims of the ‘870 patent are analogous to those in *DDR Holdings* because they solve a problem unique to a particular technological environment. 773 F.3d at 1257 (“[T]hese claims stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.”). In *DDR Holdings*, the Federal Circuit found claims eligible despite implementation of a previously known business concept in a generic computer because the specific implementation of the known concept solved a problem unique to the Internet. *Id.* at 1257–58. The court emphasized that while the “concept” of a “store within a store” might have been conventional, implementation of that practice on the Internet, “to account for the ephemeral nature of an Internet ‘location’” and “the near-instantaneous transport between these locations” solved a problem “that does not arise in the ‘brick and mortar’ context.” 773 F.3d at 1258. Similarly, the claims in the ‘870 patent

provide a solution to a problem that is unique to a cellular network in which dynamic addresses are assigned to wireless terminals and external network elements lack continuous access to those addresses. The claims of the ‘870 patent involve the familiar concept of matching identifiers to retrieve information, but that concept is employed to the end of solving a technological problem unique to a particular cellular network implementation.

In addition, the claims of the ‘870 patent “improve[] an existing technological process.” *Alice*, 134 S. Ct. at 2358. Like the claims at issue in *Enfish*, the claims in the ‘870 patent “achieve[] . . . benefits over conventional” systems. 822 F.3d at 1337. In *Enfish*, the Federal Circuit considered claims to a self-referential table implemented in software on a generic computer. *Id.* at 1330–33. The court focused on the specific benefit identified in the patent specification: the claimed relational database did not require “a programmer to predefine a structure” for data input. *Id.* at 1337. The claimed table, as described in the specification, “improve[d] the way a computer stores and retrieves data in memory.” *Id.* at 1339. In this case, the ‘870 patent similarly explains how the claimed method improves known cellular networks and messaging servers: by providing a method for the external messaging server to obtain information about the wireless terminal required to send information directly to the terminal. ‘870 patent, at 2:43–49; 11:11–19.

The Court further concludes that the district court decisions relied on by Sprint are distinguishable. For example, in one such case, the court considered the following claim:

A method for identifying characteristics of data files, comprising:
receiving, on a processing system, file content identifiers for data files from a plurality of file content identifier generator agents, each agent provided on a source system and creating file content IDs using a mathematical algorithm, via a network;
determining, on the processing system, whether each received content identifier matches a characteristic of other identifiers; and

outputting, to at least one of the source systems responsive to a request from said source system, an indication of the characteristic of the data file based on said step of determining.

Intellectual Ventures I LLC v. Symantec Corp., 100 F. Supp. 3d 371, 382 (D. Del. 2015) (Stark, J.). The court determined that the claim was directed to the “abstract idea of receiving identifying information, comparing it to other information, and outputting an indication based on the identifying information.” *Id.* at 385. The problem that the patent in that case purported to solve, identifying and separating spam email prior to receipt by a user, was not a problem “inextricably tied to computer technology.” *Id.* Rather, as Judge Stark explained, the patent implemented a quintessentially human activity—identifying characteristics in data and taking action in response—that could be performed by humans without computer intervention. *Id.* at 384–85.

While identifying characteristics and sorting messages is an activity that people perform every day, without computer assistance, the method implemented in the ‘870 patent has no such everyday analog and could not be performed “entirely in the human mind.” *See CyberSource Corp. v. Retail Decision, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011). Rather, the ‘870 patent describes a method that can *only* be performed on a computer. Specifically, it claims a method of *sending an inquiry* between two elements in a network. Characterizing the method as simply “matching identifiers to retrieve information,” as Sprint’s does in its bank teller analogy, fails to consider each step in the method and removes the method from context, ignoring the problem that the ‘870 patent solves. *See Internet Patents Corp.*, 790 F.3d at 1346 (“[T]he claims are considered *in their entirety* to ascertain whether their *character as a whole* is directed to excluded subject matter.” (emphasis added)).

Unlike the method in *Intellectual Ventures v. Symantec*, the ‘870 patent is not directed to the abstract idea of determining information about something and taking action in response. The

'870 patent solves a problem that is created by the design of cellular networks, specifically the use of dynamic addresses for wireless terminals and the allocation of information inside and outside the cellular network. The '870 patent claims a method of sending an inquiry between two different network elements, and the abstract idea "matching identifiers to retrieve information" is only part of the method. The patent claims an interaction between the messaging server and the cellular network that improves the functioning of both. The analysis in *Intellectual Ventures v. Symantec* is inapposite.

For these reasons, the Court concludes that the claims at issue in the '870 patent are not directed to an abstract idea and denies Sprint's Motion for Summary Judgment that the claims are ineligible under § 101 on that ground.

c. 35 U.S.C. § 101 Step Two

Having concluded that Claim 1 of '870 patent is not directed to an abstract idea, the Court turns to step two. The United States Court of Appeals for the Federal Circuit has recognized that the inquiries at step one and step two are intertwined and the step two analysis may reinforce a conclusion at step one. *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, --- F.3d ----, 2016 WL 3514158, at *5 (Fed. Cir. June 27, 2016) (concluding that a step two analysis could be useful to confirm whether claims are directed to a "nonabstract idea"). Thus, the Court will conduct the step two analysis assuming *arguendo* that the '870 patent is directed to the abstract idea of "matching identifiers to retrieve information." At step two, the Court must evaluate whether there are sufficient additional elements to "transform the nature of the claim into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (quotations omitted). The Court concludes that there is sufficient additional content in the claims to transform the claims of the '870 patent into eligible subject matter.

At step two, the court “must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 134 S. Ct. at 2357 (quoting *Mayo*, 132 S. Ct. at 1294, 1298). “A claim that recites an abstract idea must include additional features to ensure that the claim is more than a drafting effort designed to monopolize the abstract idea.” *Id.* (citations and quotations omitted). “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.* at 2358; see *TLI Commc’ns*, 823 F.3d at 614 (“Generic computer components [are] insufficient to add an inventive concept to an otherwise abstract idea”). “Neither attempting to limit the use of the idea to a particular technological environment nor a wholly generic computer implementation is sufficient.” *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014) (citations and quotations omitted). “An inventive concept that transforms the abstract idea into a patent-eligible invention must be significantly more than the abstract idea itself, and cannot simply be an instruction to implement or apply the abstract idea on a computer.” *Bascom*, 2016 WL 3514158, at *6.

As discussed with respect to step one, the ‘870 patent solves a problem unique to certain types of cellular networks. See *DDR Holdings*, 773 F.3d at 1257 (“[T]he claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.”). The claims are specific to a particular implementation of a network with an external messaging server that lacks access to information used inside the cellular network. The messaging server and the cellular network each have defined functions and elements that are unique to the method claimed by the ‘870 patent. Thus, the ‘870 patent does not claim all implementations of “matching identifiers to retrieve information” in a cellular network, but only a specific one in the context of a messaging server inquiry and resulting

response. *See DDR Holdings*, 773 F.3d at 1258 (“[The claims] do not broadly and generically claim ‘use of the Internet’ to perform an abstract business practice (with insignificant added activity.)”); *see also Messaging Gateway Solutions, LLC v. Amdocs, Inc.*, Civil Action Nos. 14-732–737, 2015 WL 1744343, at *6 (D. Del. Apr. 15, 2015) (“[The claim] is firmly rooted in technology and is addressed to a specific problem arising in the realm of mobile device-to-Internet communication.”). Moreover, the ‘870 claims specify that the inquiry leads to the retrieval of information by mapping an external and internal identifier unique to the wireless terminal. *See DDR Holdings*, 773 F.3d at 1258 (“[T]he claims at issue here specify how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events”).

Sprint argues that because the network elements described in the ‘870 patent were known in the prior art, the claims cannot add an inventive concept, and essentially asks the Court to apply a § 102 anticipation or § 103 obviousness analysis in the guise of step two of § 101. *See Sprint Reply in Supp. of Mot. for Summ. J.*, at 9–10 (“Comcast has not claimed *new* servers, wireless terminals, or networks.”). The Court declines to do so. The Federal Circuit has cautioned against applying a § 103 obviousness analysis at step two of a § 101 analysis. *See Bascom*, 2016 WL 3514158, at *6. “The inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art,” and there is no rule that implementation of a new method in old technology is *per se* invalid. *Id.* “[A]n inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.” *Id.* Contrary to Sprint’s characterization, the ‘870 patent explains how the method is an unconventional, particular arrangement of conventional pieces, because it allows an external messaging server to communicate directly with a dynamically-addressed wireless terminal after

retrieving information about the wireless terminal from the cellular network. ‘870 patent, at 14:2–19.

Furthermore, there is no danger of preempting all methods of cellular network messaging because the ‘870 patent is limited to a “specific, discrete implementation.” *Bascom*, 2016 WL 3514158, at *7. In *Bascom*, the court explained that the claims covered only a “particular arrangement of elements,” and thus did not implicate the preemption concerns identified by the Supreme Court. *See id.* (citing *Alice*, 134 S. Ct. at 2357). Similarly, the claims in the ‘870 patent only cover the use of the “matching identifiers to retrieve information” concept in the context of a cellular network with an external messaging server. As explained at length above in the Court’s construction of the term cellular network, such a configuration is just one of many possible ways to implement messaging in a cellular network.

For these reasons, the Court concludes that, even if the claims at issue are directed to an abstract idea at step one, there are sufficient additional elements to transform the claims into a patent-eligible application. Thus, the Court denies Sprint’s Motion for Summary Judgment on the ground that the claims are ineligible under § 101.

2. *Sprint’s Motion for Summary Judgment of Invalidity under 35 U.S.C. § 112*

Sprint argues in its Motion for Summary Judgment that the ‘870 patent is invalid as a matter of law because it is indefinite under § 112, paragraph 2, of the Patent Act. The Court disagrees and denies that part of Sprint’s Motion for Summary Judgment.

§ 112 of the Patent Act requires that a patent “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. This provision is construed as imposing a requirement that

the claims of the patent not be “indefinite.” See *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2125 (2014).

“[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 134 S. Ct. at 2124. “[A] claim term is indefinite if it leaves the skilled artisan to consult the unpredictable vagaries of any one person’s opinion.” *Dow Chem. Co. v. Nova Chems. Corp.*, 803 F.3d 620, 635 (Fed. Cir. 2015). “[A] patent which defines a claim phrase through examples may satisfy the definiteness requirement.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1373 (Fed. Cir. 2014).

Indefiniteness is a question of law, but any subsidiary questions of fact must be proven by clear and convincing evidence because the statutory presumption of validity¹³ applies. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347–48 (Fed. Cir. 2005), *abrogated on other grounds by Nautilus*, 134 S. Ct. at 2124.

In the Memorandum and Order dated August 15, 2014, the Court construed two terms in the ‘870 patent: “a specific identifier external to the cellular network” and “an internal identifier of the cellular network.” *Comcast v. Sprint I*, 38 F. Supp. 3d at 629. The Court construed the term “a specific identifier external to the cellular network” as “a specific identifier used outside and inside the cellular network to identify a specific wireless terminal.” *Id.* at 627. The Court reached this conclusion because the method requires that the external identifier be used in the cellular network, which is where the external identifier is mapped to the internal identifier. *Id.*

¹³ 35 U.S.C. § 282 provides that “a patent shall be presumed valid” and that “the burden of establishing invalidity of a patent or any claim thereof shall rest on the part asserting such invalidity.” Based on this provision, the United States Court of Appeals for the Federal Circuit requires clear and convincing evidence to invalidate a patent on indefiniteness grounds to “accord respect to the statutory presumption of validity.” *Datamize*, 417 F.3d at 1347–48.

The Court concluded that the external identifier must be one used both outside and inside the cellular network to identify the wireless terminal. *Id.*

The Court construed the term “an internal identifier of the cellular network” as “an identifier used inside the cellular network to identify a specific wireless terminal, which may, but need not, be revealed outside the cellular network.” *Comcast v. Sprint I*, 38 F. Supp. 3d at 629. The Court rejected Sprint’s proposed construction, which would have precluded the use of the internal identifier outside the cellular network. Sprint relied on the statement in the ‘870 patent that the “second [internal] identifier is . . . used to identify the terminal inside the cellular network and it is not revealed to network elements external to the cellular network.” ‘870 patent, at 4:54–59; *see Comcast v. Sprint I*, 38 F. Supp. 3d at 627–28. However, the Court concluded that this benefit identified in the specification was an advantage of a preferred embodiment, and not the invention as claimed. The Court explained:

[T]he statement in question . . . is plainly a continuation of the patent’s description of a particular embodiment of an internal identifier, an IMSI, which begins in the preceding paragraph [A] person of ordinary skill . . . would interpret the patentee’s statement about not revealing the internal identifier as pertaining to this specific embodiment, rather than the invention as a whole [R]evelation of the internal identifier to elements external to the network would not subvert the invention’s entire purpose, as Sprint claims [I]n the case of the ‘870 patent, the desire to keep at least certain embodiments of the internal identifier secret (e.g., the IMSI), is secondary to the patentee’s primary aim, which is to ensure that “inquiries relating to the wireless terminal can . . . be carried out reliably when the wireless terminal has a *dynamic PDP address*.” ‘870 patent at 2:33-40 (emphasis added). Because there is no requirement that the asserted claims accomplish all of the objectives of the patents-in-suit, this rationale does not justify reading Sprint’s proposed limitation into the claims.

Comcast v. Sprint I, 38 F. Supp. 3d at 628–29 (some internal citations and quotations omitted).

Thus, the Court concluded that the claims, in light of the specification, allowed for the optional use of the internal identifier outside of the cellular network. *Id.* at 629.

Sprint argued at the first set of *Markman* hearings that Comcast’s construction failed to differentiate between the internal and external identifiers, and thus read these limitations out of the claims. The Court addressed this argument in the August 15, 2014, Memorandum and Order:

Although it rejects Sprint’s proposal, the Court does find merit in Sprint’s assertion that Comcast’s proposed construction fails to differentiate between the internal and external identifiers. Specifically, Sprint notes that because both the internal and external identifiers of the invention are used in the *internal* network to identify the wireless terminal, Comcast’s proposed construction—“an identifier used inside the cellular network to identify the wireless terminal”—applies equally to both identifiers. Amending Comcast’s proposal to add that an internal identifier “may, but need not, be revealed outside the cellular network” clarifies this point of confusion.

Comcast v. Sprint I, 38 F. Supp. 3d at 629.

In its pending Motion for Summary Judgment, Sprint renews a version of the same argument previously rejected by the Court. Sprint avers that the ‘870 patent is invalid for indefiniteness because the Court’s claim construction allows the external identifier to be used internally, and the internal identifier to optionally be used externally. Sprint explains:

By allowing both the internal and external identifiers to be used both internally and externally, the Court’s construction does not provide one of ordinary skill with a basis to differentiate between an ‘external’ and ‘internal’ identifier. Until privy to Comcast’s choice of infringement theory, an accused network operation would likewise have no ability to discern whether identifiers they employed were “external” or “internal,” given that the constructions allow an identifier used in both places to be *either* an external or internal identifier. An identifier which “may, but need not” be revealed publicly, could constitute an external identifier for purposes of one infringement read, and also be an internal identifier for purposes of another infringement read.

Sprint Br. in Supp. of Mot. for Summ. J., at 27–28 (citations omitted). In support of its position, Sprint offers the opinion of its technical expert, Mr. Lanning, who opines that a person of ordinary skill would be unable to determine the scope of the patent in light of the Court’s construction. Sprint Mot. for Summ. J., Ex. F ¶¶ 30–32.

The Court rejects this argument. Nothing about the claimed method requires the identifiers to be used exclusively internally or externally for a person of ordinary skill to determine if a particular system infringes the '870 patent. The external identifier is used by the messaging server in the initial inquiry to the cellular network. The internal identifier is used within the cellular network to retrieve the information sought by the inquiry. Based on the claims and specification, a person of ordinary skill would be able to identify the cellular network and the messaging server.¹⁴ Having done so, it is clear which identifier is which based on their use in the method.

Sprint's argument that some identifiers could be the external identifier in one infringement read and the internal identifier in another is misplaced. The fact that a system may infringe a patent in different ways does not make the patent indefinite, because the indefiniteness inquiry asks only whether the patent "provides reasonable notice of the scope of the claimed invention." *Nautilus*, 134 S. Ct. at 2128. A person of ordinary skill would understand that multiple infringement reads are possible depending on the particular cellular network and messaging server combination, and the identifier used in the inquiry and the identifier used in the cellular network. This would not prevent a person of ordinary skill from determining whether a particular system infringed.

Sprint also argues that the Court's construction reads the "external" and "internal" limitations out of the claims. Sprint Reply in Supp. of Mot. for Summ. J., at 12. The case relied upon by Sprint in support of this argument, *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607

¹⁴ Counsel for Sprint reiterated at oral argument that the term "cellular network" is not indefinite and that a person of ordinary skill would be able to determine what elements were inside or outside the network. June 24, 2016, PM Pt. 2 Hr'g Tr., at 8:18–9:5 (counsel for Sprint) ("[I]s the Court asking . . . whether it's Sprint's position that the '870 patent is indefinite because the boundaries of the cellular network . . . cannot be determined? That is not Sprint's position [W]e don't believe the term cellular network is indefinite").

F.3d 776 (Fed. Cir. 2010), is inapposite. In *Haemonetics*, the patent at issue claimed a particular type of centrifuge and the district court construed the term “centrifugal unit” to refer only to the centrifugal vessel and excluded associated tubing. *Id.* at 781. The issue posed was that the inclusion, or exclusion, of the tubes rendered other claims, which included specific size limitations, inconsistent. *Id.* at 782. In rejecting the district court’s construction, the United States Court of Appeals for the Federal Circuit relied on the plain language of the claims that the centrifugal unit “compris[ed] a centrifugal component and a plurality of tubes.” *Id.* at 781. The court concluded that this limitation of the composition of the centrifugal component, including the tubes, was read out of the claims by the district court’s construction, which excluded the tubes. *Id.* The court declined to “redraft claims to contradict their plain language in order to avoid a nonsensical result.” *Id.* at 782.

There is no such error in the Court’s construction of the terms of the ‘870 patent in this case. Rather, the Court’s construction makes clear that the internal and external labeling of the identifiers in the claims reflects their use inside and outside the cellular network *in the process of performing the method*. The parties agree that a person of ordinary skill can determine the bounds of the cellular network so as to determine where the method begins and ends. Thus, the internal and external limitations have not been read out, but rather have been defined in light of the claims and specification. *See Dow Chemical*, 803 F.3d at 634 (concluding that a patent is not indefinite if “guidance . . . is provided by the claims, specification, and prosecution history”).

Accordingly, the Court denies Sprint’s Motion for Summary Judgment on the ground that the ‘870 patent is invalid for indefiniteness under § 112, ¶ 2.

3. *Comcast's Motion for Summary Judgment of No Anticipation under 35 U.S.C. § 102*

In its Motion for Summary Judgment, Comcast argues that Sprint's affirmative defense of patent invalidity under § 102 of the Patent Act fails as a matter of law with respect to three prior art references.¹⁵ For the reasons that follow, the Court grants Comcast's Motion for Summary Judgment of no anticipation over Vuoristo, but denies Comcast's Motion for Summary Judgment of no anticipation over GSM 3.60 and Huopaniemi.

§ 102 of the Patent Act provides that “[a] person shall be entitled to a patent unless the invention was . . . patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent” 35 U.S.C. § 102(a). “A patent is invalid for anticipation under . . . § 102 if a single prior art reference discloses each and every limitation of the claimed invention.” *Allergan, Inc. v. Apotex, Inc.*, 754 F.3d 952, 958 (Fed. Cir. 2014).

However, “[a] single prior art reference may anticipate without disclosing a feature of the claimed invention if such feature is necessarily present, or inherent, in that reference.” *Id.* “[If] the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” *Atlas Powder Co. v. Ireco, Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999). Inherency may not be established by the mere “probability” or “possibility” that the missing feature is present. *Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 639 (Fed. Cir. 2011). A reference may inherently anticipate a claim limitation even if a person of ordinary skill would not have recognized the inherent disclosure at the time of the disclosure. *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003).

¹⁵ In response to Comcast's Motion for Summary Judgment, Sprint withdrew two other references, Comverse and Donovan '726, as anticipatory prior art under § 102. *See* Sprint Resp. to Mot. for Summ. J., at 15 n.3.

Anticipation is a question of fact and must be proven by clear and convincing evidence because the statutory presumption of validity applies. *See Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011) (citing 35 U.S.C. § 282) (“§ 282 requires an invalidity defense to be proved by clear and convincing evidence.”). The Court will grant a motion for summary judgment on anticipation grounds if “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *see Celotex Corp. v. Catrett*, 477 U.S. 317, 322–23 (1986). A factual dispute is material when it “might affect the outcome of the suit under the governing law.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute of fact is genuine “if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Id.*

a. Vuoristo

It is Sprint’s position that a prior art reference, Vuoristo, expressly discloses all of the limitations of the ‘870 patent, except for the mapping step, which Sprint argues is inherently disclosed. In the instant Motion for Summary Judgment, Comcast challenges only the inherent disclosure of the mapping step and argues that no reasonable jury could conclude that there is clear and convincing evidence of inherent anticipation of that step. The Court agrees with Comcast and grants Comcast’s Motion for Summary Judgment of no anticipation of the ‘870 patent over Vuoristo.

Vuoristo is an International Patent Application under the Patent Cooperation Treaty dated June 3, 1999. Comcast Mot. for Summ. J., Ex. 15 (hereinafter “Vuoristo”). The parties agree that Vuoristo is prior art under § 102. Vuoristo is titled “Subscriber Service Profiles in Telecommunication System” and was invented by Finnish engineers at Nokia, though not by the inventor of the ‘870 patent. The patent describes a method for allowing a cellular network to

maintain separate “subscriber profiles” for different customers. Vuoristo, at 4:1–29. The patentee explains that

The advantage of the system of the invention is thus that the subscriber is able to use the versatile service profiles comprising all the services defined for him/her by the use of which he/she easily changes . . . the operation of all services by changing only a piece of information

Vuoristo, at 5:7–13. In the preferred embodiment, the method is implemented in the GPRS of the GSM network, as in the ‘870 patent. 6:33–34.

Vuoristo discloses a method wherein a “service profile register” (“SPR”) stores certain information relating to a cellular subscriber. Vuoristo, at 8:16–21. In response to an inquiry from another network element containing a “profile identifier,” such as a messaging server, the SPR sends a response message with the subscriber’s profile information. Vuoristo, at 16:36–17:10.

In support of its position, Sprint relies on the testimony of its liability expert, Dr.

Nathaniel Polish. Dr. Polish opines:

Vuoristo discloses the step of a messaging server that resides external to the cellular network sending an inquiry for subscriber service profiles to the SPR, which resides in the cellular network. The execution of this inquiry by the SPR, which resides within the cellular network, inherently requires mapping the “first identifier” in the inquiry (i.e. “profile identifier”) to a “second identifier” . . . for example, an index, primary key, metadata, and/or other data (collectively “primary key”) associated with the storage of a subscriber service profile record in the SPR’s database [T]he way a database such as, for example, the SPR’s database retrieves a data record is that the database receives a search query that includes a search key, the database analyzes the search inquiry to obtain the search key, and then the database maps the search key against a “primary key” associated with each database record. The database identifies a “hit” when the search key maps to the “primary key” to a sufficient degree. Finally, the database returns all the records that recorded a “hit”—i.e. where the search key maps to the “primary key.” This process necessarily must occur in the SPR for the SPR to be able to provide a response to the SMSC’s inquiry that properly satisfies the request.

Comcast Mot. for Summ. J., Ex. 16, Expert Report of Dr. Nathaniel Polish ¶¶ 89–90. Comcast takes the position that no mapping would be required because it is possible to search the database using the profile identifier to retrieve the requested information.

Vuoristo itself does not use the phrase “primary key.” In Vuoristo, the profile identifier is included in the initial message. Vuoristo, at 16:36–17:3 (“The application . . . identifies the messages inquiring about the service profiles . . . and distinguishes the profile identifier . . . found in the message.”). After the inquiry, Vuoristo simply states that the SPR “searches for the information indicated by the inquiry message in the database service profile list.” Vuoristo, at 17:3–6. Vuoristo is clear that the profile identifier does not unambiguously identify a subscriber because multiple subscribers may use the same profile identifier. Vuoristo, at 9:5–6 (“Two different subscribers using the same profile identifier does not cause confusion.”). A search of the database using the profile identifier alone would not always return the information requested, because multiple subscribers could use a particular profile identifier. Because of this, searching the database using a profile identifier would not be an ideal way of implementing the method.

However, to reach the conclusion that Vuoristo inherently discloses mapping the profile identifier to a primary key prior to retrieving information, the jury would have to credit Dr. Polish’s opinion that it is *only* possible to search the database described in Vuoristo with some unmentioned primary key and not with the profile identifier itself. Dr. Polish admitted that searching the database using the profile identifier, rather than some other primary key, would be possible, though he testified that “the reference doesn’t teach that.” Comcast Mot. for Summ. J., Ex. 17, March 17, 2016, Deposition of Dr. Nathaniel Polish, at 133:8–134:20. Dr. Polish also acknowledged that the reference was “silent” on using the profile identifier as a primary key. *Id.*

at 145:3–11. As Dr. Polish opined, Vuoristo does not teach searching via a profile identifier alone. However, Vuoristo also does not teach searching via a primary key, because Vuoristo is silent as to how the search of the database is performed.

The Court rejects Sprint’s argument that there is a genuine dispute of material fact as to anticipation over Vuoristo based on Dr. Polish’s testimony. Absent any reference in Vuoristo to a primary key or mapping, and given Dr. Polish’s concession that Vuoristo does not foreclose the possibility of searching the SPR using the profile identifier, no reasonable jury could conclude that mapping is necessary to implement Vuoristo, as required to prove inherent anticipation. Because Vuoristo does not inherently disclose mapping, Vuoristo does not disclose every limitation of the ‘870 patent. Accordingly, Comcast’s Motion for Summary Judgment of no anticipation of the ‘870 patent over Vuoristo is granted.

b. GSM 3.60

It is Sprint’s position that a prior art reference, GSM 3.60, expressly discloses all of the limitations of the ‘870 patent except the mapping step, which Sprint argues is inherently disclosed. In its Motion for Summary Judgment, Comcast challenges only the inherent disclosure of the mapping step and argues that no reasonable jury could find clear and convincing evidence that the step is inherently disclosed. For the reasons that follow, the Court denies Comcast’s Motion for Summary Judgment on this ground because there are genuine disputes of material fact as to whether GSM 3.60 inherently discloses the mapping step.

The full title of the prior art reference that the parties refer to as “GSM 3.60” is “European Standard (Telecommunications) EN 301 344 V6.3.2 (1999-07): Digital Cellular Telecommunications System (Phase 2+); General Packet Radio Service (GPRS); Service Description; Stage 2 (GSM 03.60 version 6.3.2 Release 1997).” Comcast Mot. for Summ. J., Ex.

21 (hereinafter “GSM 3.60”). GSM 3.60 is a specification for a GPRS in the GSM cellular standard issued by the European Telecommunications Standards Institute. The parties agree that GSM 3.60 is prior art to the ‘870 patent.

Specifically at issue is § 16.1.1 of GSM 3.60, which describes a specification for “mobile-terminated SMS transfer.” GSM 3.60, at 92. The specification sets forth, *inter alia*, the following method:

1. The short message service center determines it shall send a SM [short message] to an MS [wireless terminal]. SM-SC [the short message service center] forwards the SM to a SMS gateway MSC (SMS-GMSC) [short message service gateway message service center].
2. SMS-GMSC examines the destination MS Address, and sends a Send Routing Info for Short Message message to the relevant HLR [home location register].
3. HLR returns a Send Routing Info for Short Message Result message to the SMS-GMSC. The result may contain the MS’s current SGSN Number [serving GPRS support node number], the MSC Number, or both.

Id. Elsewhere, in describing the HLR, GSM 3.60 explains that the “IMSI [international mobile subscriber identifier] is the prime key to the GPRS subscription data stored in the HLR.” *Id.* § 13.1, at 78. In a table describing the identifiers contained in the HLR, the specification provides that “IMSI is the main reference key” of the HLR. *Id.* Table 4, at 79.

Sprint’s expert, Dr. Nathaniel Polish, opined that, because the IMSI is the prime key, the HLR in step 3 would be required to map the incoming MS Address to the IMSI before retrieving information about the wireless terminal. Comcast Mot. for Summ. J., Ex. 16, Expert Report of Dr. Nathaniel Polish ¶ 154. Dr. Polish explains that because data in the HLR is organized according to the IMSI primary key, “the HLR must map the received search key to the IMSI, which will facilitate access to subscriber information records.” *Id.* ¶ 155.

Comcast argues that GSM 3.60 discloses the possibility of searching the HLR using the MS Address or something other than the IMSI, thus rendering mapping unnecessary to perform

the method described in § 16.1.1. Comcast avers that Dr. Polish admitted that such a search was possible at his deposition, relying on the following line of questioning:

Q: [I]s it technically possible to do the look up, to retrieve the information that's requested using the MSISDN and not using the IMSI?

A: Outside the scope of the reference doing it some other way it's possible, I suppose.

Comcast Mot. for Summ. J., Ex. 17, March 17, 2016, Deposition of Dr. Nathaniel Polish, at 104:15–23. However, Dr. Polish only offered this opinion in the scope of Comcast's hypothetical, which asked him to go beyond the scope of the GSM 3.60 disclosure. Based solely on the GSM 3.60 specification, Dr. Polish testified as follows:

Q: [I]t's your opinion that the only way to do the lookup, send routing info, in response to the send routing info inquiry, the only way to do it is by mapping the MSISDN to the IMSI . . . ?

A: Only way The MSISDN is passed in as the MS address field and a lookup is done within the database and . . . the customer information is stored in the database with the IMSI as a primary key

Id. at 78:21–79:9. The sum of Dr. Polish's testimony was that GSM 3.60 necessarily required a mapping of the incoming MS address information to the IMSI primary key to perform the method described at § 16.1.1.

The Court concludes that the references in GSM 3.60 to the IMSI being the “primary key” of the HLR in combination with Dr. Polish's expert testimony create a genuine dispute of material fact as to whether GSM 3.60 inherently discloses the mapping step of the '870 patent. Accordingly, Comcast's Motion for Summary Judgment on the ground of no anticipation of the '870 patent over GSM 3.60 is denied.

c. Huopaniemi

It is Sprint's position that a prior art reference, Huopaniemi, expressly discloses all of the limitations of the '870 patent. Comcast argues in its Motion for Summary Judgment that Sprint

has failed to produce any evidence that Huopaniemi discloses the final sending step of the '870 patent, specifically the limitation that the response be "indicated with the aid of said first identifier." For the reasons that follow, the Court denies Comcast's Motion for Summary Judgment of no anticipation over Huopaniemi because Sprint has produced sufficient evidence to create a genuine dispute of material fact as to whether Huopaniemi discloses that limitation.

Huopaniemi is an International Patent Application under the Patent Cooperation Treaty dated June 10, 1999. Comcast Mot. for Summ. J., Ex. 22 (hereinafter "Huopaniemi").

Huopaniemi is titled "System and Procedure for Directing a Short Message." Like Vuoristo, Huopaniemi was invented by Finnish engineers at Nokia, though not by the inventor of the '870 patent. The parties agree that Huopaniemi is prior art to the '870 patent.

In summary, Huopaniemi provides a method for sending text messages to a "virtual private network" ("VPN") subscriber number, e.g. a 1-800 number. Huopaniemi, at 1:12-31. Multiple VPN numbers may direct calls (or, as in the Huopaniemi method, text messages) to a single subscriber. The preferred embodiment, as in the '870 patent and Vuoristo, is implementation of the method in the GPRS network of GSM. Huopaniemi, at 2:15.

Huopaniemi describes a method in which the short message service center ("SMSC") has a message to send to a virtual number. The SMSC sends the message to the routing center, the short message service gateway message service center ("SMS-GMSC"), which may or may not be physically integrated with the SMSC. Huopaniemi, at 2:27-30, 4:28-30. The SMS-GMSC sends an inquiry including the virtual subscriber number to the service node, Huopaniemi, at 4:31-33, and the service node sends an inquiry with the virtual subscriber number to the service database ("DB"). Huopaniemi, at 4:33-36. The DB then matches the virtual subscriber number to the correct MSISDN (the destination user's phone number). Huopaniemi, at 4:36-5:2. The DB

then sends an inquiry to the HLR with the MSISDN. Huopaniemi, at 5:2–4. The HLR sends a response with the IMSI code and the address of the correct mobile services switching center to the service node. Huopaniemi, at 5:5–9. The service node returns the IMSI code and mobile services switching center address to the SMS-GMSC. Huopaniemi, at 5:9–11.

Sprint’s expert, Dr. Polish, opines that the Huopaniemi method discloses all of the steps of the ‘870 patent. With respect to the response message, Dr. Polish explains:

I understand that, in the context of its HLR-based infringement theory, Comcast argues that the claim step “in which response message the information relating to said terminal is indicated with the aid of said first identifier” is met even where the first identifier is not contained in the response message [I]f one of ordinary skill was to apply Comcast’s apparent broad interpretation, Huopaniemi would teach this claim step

Comcast Mot. for Summ. J., Ex. 16, Expert Report of Dr. Nathaniel Polish ¶ 143. Comcast argues that Dr. Polish fails to adequately support his opinion that a person of ordinary skill would understand Huopaniemi to teach the limitation “indicated with the aid of said first identifier.”

At oral argument, the Court asked the parties whether there was a material dispute as to construction of the claim limitation “indicated with the aid of said first identifier” and counsel asserted that construction of the term was not required. June 23, 2016, AM Hr’g Tr., at 60:19–21. However, counsel for each party then proceeded to take different positions as to what the term means. Counsel for Comcast stated that the limitation did not require the first external identifier to be included in the response message. *Id.* at 64:21–24. It is Comcast’s position that the limitation may be met by a method that simply uses the first external identifier to generate some other way of identifying a particular inquiry, e.g. by numbering each inquiry sent into the cellular network sequentially. *Id.* at 65:1–66:2. Counsel for Sprint then took the exact opposite position, explaining that “our view . . . is that the last limitation does require [the first identifier] to come

back” in the response. *Id.* at 68:8–68:12. The Court will resolve this dispute at trial should it become relevant to a party’s claim or defense. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.”).

For purposes of the instant motions only, the Court will adopt the construction used by Comcast, the moving party. Under Comcast’s construction of the term, any involvement of the first identifier at any step of the method prior to sending a response would satisfy the limitation. Under this reading of the term, expert testimony is not required to determine that the limitation is met in the method described by Huopaniemi, at least inherently, if not expressly. The inquiries in Huopaniemi must be identified in some way so that a response may be associated with the correct inquiry. Assuming Comcast’s position that sequential numbering of requests would satisfy this claim limitation, there is a genuine dispute of material fact as to whether Huopaniemi discloses this claim limitation. Accordingly, Comcast’s Motion for Summary Judgment on the ground of no anticipation over Huopaniemi is denied.

F. Motions for Summary Judgment Related to License

Sprint argues in its Motion for Summary Judgment that, as part of a contract between Comcast and Nokia Corporation, it obtained a license to practice the ‘870 patent in some of its accused messaging systems. Comcast argues in its cross-Motion for Summary Judgment on the same issue that Sprint did not receive a license in that agreement. For the reasons the follow, the Court agrees with Comcast, and will deny Sprint’s Motion for Summary Judgment and grant Comcast’s Motion for Summary Judgment on the license issue.

1. Factual Background

On December 14, 2007, Sprint entered into a Master Purchase Agreement for Equipment, Software, and Related Services with an entity known as Nokia Siemens Networks USA LLC (“NSN USA”)¹⁶ by which Sprint purchased the “subscriber profile system” (“SPS”). Sprint Mot. for Summ. J., Ex. L (hereinafter “Sprint-NSN Agreement”). The parties dispute the exact nature of the ownership structure of NSN USA, but agree that NSN USA was a joint venture between Nokia Corporation (or some subsidiary of Nokia Corporation) and Siemens.¹⁷ See Comcast Reply in Supp. of Mot. for Summ. J., at 14. Sprint does not assert in the present cross-Motions for Summary Judgment that it received a license to practice the ‘870 patent in the 2007 Sprint-NSN agreement.

On June 30, 2010, Comcast entered into a Patent Purchase Agreement with Nokia Corporation (“Nokia”). Sprint Mot. for Summ. J., Ex. G (hereinafter “Comcast-Nokia Agreement”). In that agreement, Comcast purchased a number of United States and international patents, including the ‘870 patent, from Nokia. Comcast-Nokia Agreement, Ex. A. The parties dispute the nature of the relationship between Nokia and NSN-USA at the time of the Comcast-Nokia Agreement.

Sprint began using the SPS in November 2010. Sprint Resp. to Comcast’s Statement of Material Facts ¶ 53. Comcast alleges that the SPS infringes the asserted claims of the ‘870 patent and seeks damages arising out of this use. Sprint Resp. to Comcast’s Statement of Material Facts ¶ 54. Sprint avers that it received a license to practice the ‘870 patent in SPS under the terms of the 2010 Comcast-Nokia Agreement.

¹⁶ As part of a merger in 2008 unrelated to the facts of this case, this entity subsequently became Nokia Siemens Networks US LLC. Because the merger has no effect on the issues presented, the Court will refer to both entities interchangeably as “NSN USA.”

¹⁷ The record is unclear which Siemens entity was involved in the joint venture.

2. *Applicable Law*

“A nonexclusive patent license is simply a promise not to sue for infringement.” *U.S. Philips Corp. v. Int’l Trade Comm’n*, 424 F.3d 1179, 1189 (Fed. Cir. 2005). “A license agreement is a contract governed by ordinary principles of state contract law.” *Imation Corp. v. Koninklijke Philips Elec. N.V.*, 586 F.3d 980, 985 (Fed. Cir. 2009) (quoting *Power Lift, Inc. v. Weatherford Nipple-Up Sys., Inc.*, 871 F.2d 1082, 1085 (Fed. Cir. 1989)).

In this case, the 2010 Comcast-Nokia Agreement provides that it “shall be construed and governed by the laws of the State of New York” and the parties agree that New York law applies. Comcast-Nokia Agreement § 10. “Under New York law, ‘construction of an unambiguous contract is a matter of law, and the intention of the parties may be gathered from the four corners of the instrument and should be enforced according to its terms.’” *Imation Corp.*, 586 F.3d at 985 (quoting *Beal Sav. Bank v. Sommer*, 865 N.E.2d 1210, 1213–14 (N.Y. 2007)). “A contract should be read as a whole, and every part will be interpreted with reference to the whole; and if possible it will be so interpreted as to give effect to its general purpose.” *Id.* (quoting *Beal*, 865 N.E.2d at 1213–14). “An ambiguity exists where the terms of the contract could suggest more than one meaning when viewed objectively by a reasonably intelligent person who examined the context of the entire integrated agreement” *Law Debenture Trust Co. of N.Y. v. Maverick Tube Corp.*, 595 F.3d 458, 467 (2d Cir. 2010).

3. *Discussion*

§ 5.1 of the Comcast-Nokia Agreement provides:

Upon the Closing, Purchaser hereby grants to Seller and its current and future Affiliates under Assigned Patent Rights, a fully paid up . . . , non-exclusive, non-transferable (other than as set out below), non-sublicensable, perpetual and irrevocable right and license to practice the methods and to make, have made, use, distribute, lease, sell, offer for sale, import, export, develop, dispose, offer for disposal and otherwise exploit any products (or components thereof) and services

to the extent that, in the absence of this license, such products and services would infringe the Assigned Patent Rights (“Covered Products”). Any transfer, assignment, mortgages or other encumbrances by Purchaser on any Assigned Patent Rights subsequent to the Closing shall be subject to the license granted herein.

It is undisputed that the ‘870 patent is one of the Assigned Patent Rights. Comcast-Nokia Agreement, Ex. A.

An Affiliate is defined in § 1 of the Comcast-Nokia Agreement as:

[A]n entity (I) which is directly or indirectly controlling such entity; (II) which is under the same or common, direct or indirect control as such entity; or (III) which is directly or indirectly controlled by such entity. For these purposes, an entity shall be treated as being controlled by another if that other entity is able to direct its affairs and/or to control the composition of its board of directors or equivalent body by owning more than fifty percent . . . of the voting rights in such entity, by contract or other means Notwithstanding the foregoing, in relation to Nokia Siemens Networks BV Group of Companies (“NSN”), NSN shall continue to be deemed an Affiliate of Seller for the purposes of the License (as defined below) even if Seller’s control of NSN ceases, including situations wherein Seller’s control of NSN ceases in its entirety. *For the avoidance of doubt, entities defined as Unlicensed Third Parties below shall not constitute Affiliates of Seller under this Agreement.*

Comcast-Nokia Agreement § 1 (emphasis added). Sprint is included in the list of Unlicensed Third Parties which “do not have a patent license to the Assigned Patents” Comcast-Nokia Agreement § 1; Ex. C (identifying “Sprint Corporation” and “Sprint Nextel Corporation” as Unlicensed Third Parties).

Sprint argues that it obtained a license to practice the ‘870 patent under § 5.2 of the Comcast-Nokia Agreement, which provides:

Upon the closing, Purchaser [Comcast] hereby irrevocably releases Seller [Nokia] and its Affiliates and their product and service distributors, resellers, retailers, customers or other direct or indirect recipients properly in possession of Covered Products from any and all liability for any infringement of the Assigned Patent Rights solely to the extent any such liability may arise out of making, using, selling, offering to sell, importing or otherwise disposing of Covered Products manufactured by or on behalf of Seller or its Affiliates prior to the Closing

providing that such infringing activity/activities would have been licensed under Section 5.1 subsequent to the closing.

The Court concludes that Sprint did not receive a license to practice the '870 patent under the unambiguous terms of the Comcast-Nokia Agreement. First, the Court notes that Sprint is listed as an unlicensed third-party that does not “have a patent license to the Assigned Patents.” Comcast-Nokia Agreement § 1; Ex. C. Sprint has not identified any other provision in the Comcast-Nokia Agreement that contradicts this unambiguous language and provides Sprint with a license.

Sprint acknowledges that it did not receive a license under § 5.1. That section provides a license only to Nokia and its Affiliates at the time of the closing. Comcast-Nokia Agreement § 5.1 (“Purchaser hereby grants to Seller and its current and future Affiliates . . . a . . . license to practice the methods . . .”). Sprint was not an Affiliate of Nokia as that term is defined by the Comcast-Nokia Agreement because Sprint and Nokia were not under common control and Sprint had no other corporate relationship with Nokia. Comcast-Nokia Agreement § 1. Moreover, the Agreement expressly provides that the identified Unlicensed Third Parties in Exhibit C, including Sprint, are not to be considered Affiliates of Nokia. Comcast-Nokia Agreement § 1.

Sprint argues that it received a prospective license to practice the '870 patent in SPS under § 5.2 because SPS was purchased from a Nokia affiliate prior to closing. This argument is contrary to the unambiguous language of § 5.2, which only releases “infringing activity” that “would have been licensed under Section 5.1 subsequent to the Closing.” If Sprint had purchased SPS subsequent to the Closing, Sprint would not have obtained a license to practice the '870 patent under § 5.1. That section only grants a license to Nokia and its affiliates, and that license is “non-sublicensable.” Under § 5.1, Nokia reserved the right to use and sell a Covered Product, but that section does not allow Nokia to convey its rights to the purchaser. Thus, Sprint’s alleged

infringing activity based on use of SPS cannot be licensed under § 5.2 because such activity would not have been licensed under § 5.1 subsequent to closing.

In addition, the release provided in § 5.2 applies only to infringement that occurred prior to closing. While Sprint argues that this provision applies to any products “manufactured by or on behalf of Seller . . . prior to the closing,” this reading is contrary to the unambiguous intent of the agreement. § 5.1 provides a non-sublicensable prospective license only to Nokia and its affiliates. § 5.2 modifies § 5.1 to provide a retrospective release to clarify that Nokia is not liable for infringing activity by anyone, including a third-party, that occurred prior to closing. To conclude that § 5.2 conveys a forward-looking license to Nokia’s customers would make § 5.2 broader in scope than § 5.1 and render § 5.1 surplusage.

Finally, § 19 of the Comcast-Nokia Agreement provides that it “is not intended to and does not confer any right or benefit on any non-Affiliate third-party” Under New York law, such a provision negates the ability of a third-party to rely on the contract for any purpose. *See India.com Inc. v. Dalal*, 412 F.3d 315, 321–322 (2d Cir. 2005) (“Where a provision exists in an agreement expressly negating an intent to permit enforcement by third parties, that provision is decisive.” (quoting *Nepco Forged Prods., Inc. v. Consol. Edison Co. of N.Y., Inc.*, 99 A.D.2d 508 (N.Y. App. Div. 1984))). Thus, under New York law, Sprint, as a non-Affiliate third-party, may not attempt to enforce any provision of the Comcast-Nokia Agreement.

For these reasons, the Court concludes that Sprint did not receive a license to practice the ‘870 patent in SPS under the unambiguous terms of the Comcast-Nokia Agreement.¹⁸ Sprint’s

¹⁸ The Court notes that this result is arguably counterintuitive because it leaves Sprint subject to claims of infringement for use of a product it purchased from a joint venture of a subsidiary of the patentee. On this issue, Sprint has not claimed that it obtained a license for the product under the 2007 Sprint-NSN agreement and the clear terms of the 2010 Comcast-Nokia agreement provide no relief for Sprint.

Motion for Summary Judgment of license is denied and Comcast's Motion for Summary Judgment of no license is granted.

G. Motions to Exclude Expert Opinions Related to the '870 Patent

In its Motion to Exclude, Comcast seeks to exclude the expert testimony of Sprint's liability expert, Mark R. Lanning, with respect to infringement of the '870 patent. For the reasons that follow, Comcast's Motion to Exclude Mr. Lanning's testimony is denied. In its Motion to Exclude, Sprint seeks to exclude the expert testimony of Comcast's liability expert, Bruce H. Stoner Jr., with respect to validity of the '870 patent. For the reasons that follow, Sprint's Motion to Exclude Mr. Stoner's testimony is granted in part and denied in part.

The parties also seek to exclude the testimony of damages experts relating to damages for infringement of the '870 patent. Having taken these motions under advisement following oral argument, the Court defers ruling on the issues presented and will decide the motions prior to trial, if necessary.

1. Applicable Law

Federal Rule of Evidence 702 provides that:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

“Faced with a proffer of expert scientific testimony . . . the trial judge must determine . . . whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.” *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 592 (1993). This gatekeeping function extends beyond scientific

testimony to testimony based on “technical” and “other specialized” knowledge. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141 (1999). The United States Court of Appeals for the Federal Circuit applies the law of the regional circuit to determine the admissibility of expert testimony. *Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1360 (Fed. Cir. 2010).

Rule 702 has “a liberal policy of admissibility.” *Pineda v. Ford Motor Co.*, 520 F.3d 237, 243 (3d Cir. 2008) (quoting *Kannankeril v. Terminix Inter., Inc.*, 128 F.3d 802, 806 (3d Cir. 1997)). As such, the “rejection of expert testimony is the exception and not the rule.” Fed. R. Evid. 702 advisory committee’s note.

“Rule 702 embodies three distinct substantive restrictions on the admission of expert testimony: qualifications, reliability, and fit.” *Elcock v. Kmart Corp.*, 233 F.3d 734, 741 (3d Cir. 2000) (citing *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717 (3d Cir. 1994)). The party offering the expert must prove each of these requirements by a preponderance of the evidence. *In re TMI Litig.*, 193 F.3d 613, 663 (3d Cir. 1999).

Only the reliability restriction of *Daubert* is at issue in this case. The reliability requirement “means that the expert’s opinion must be based on the ‘methods and procedures of science’ rather than on ‘subjective belief or unsupported speculation’; the expert must have ‘good grounds’ for his or her belief.” *In re Paoli*, 35 F.3d at 742 (quoting *Daubert*, 509 U.S. at 590). The test of reliability is “flexible” and “the law grants a district court the same broad latitude when it decides *how* to determine reliability as it enjoys in respect to its ultimate reliability determination.” *Kumho Tire*, 526 U.S. at 141–42. In determining whether the reliability requirement is met, courts examine the following non-exclusive list of factors identified in *In re Paoli*:

- (1) whether a method consists of a testable hypothesis;
- (2) whether the method has been subject to peer review;
- (3) the known or potential rate of error;

(4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put.

United States v. Mitchell, 365 F.3d 215, 235 (3d Cir. 2004) (citing *In re Paoli*, 35 F.3d at 742 n.8). These factors are neither exhaustive nor applicable in every case. *Kannankeril*, 128 F.3d at 806–07.

Under the *Daubert* reliability prong, parties “do not have to demonstrate to the judge by a preponderance of the evidence that the assessments of their experts are *correct*, they only have to demonstrate by a preponderance of evidence that their opinions are reliable.” *In re Paoli*, 35 F.3d at 744. “The evidentiary requirement of reliability is lower than the merits standard of correctness.” *Id.* “As long as an expert’s scientific testimony rests upon good grounds, based on what is known, it should be tested by the adversary process—competing expert testimony and active cross-examination—rather than excluded from jurors’ scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies.” *Mitchell*, 365 F.3d at 244 (citations and quotations omitted).

2. *Comcast’s Motion to Exclude Opinions of Mark R. Lanning*

Comcast seeks to exclude part of the expert testimony of Sprint’s liability expert, Mark R. Lanning. Sprint offers Mr. Lanning’s opinions to show that some of Sprint’s accused messaging servers do not infringe the ‘870 patent because the messaging servers are internal to Sprint’s cellular network. Specifically, Comcast challenges the reliability of Mr. Lanning’s opinions regarding whether a particular network element is internal or external to Sprint’s cellular network. Comcast argues that the Court should exclude Mr. Lanning’s testimony “regarding his previously undisclosed and made-up ‘seven-factor’ analysis” because that analysis

is unreliable under *Daubert*. Comcast Mot. to Exclude, at 20. For the reasons that follow, the Court denies Comcast’s Motion to Exclude Mr. Lanning’s opinions.

Mr. Lanning opines that some of Sprint’s accused messaging servers are “core network elements and are internal to Sprint’s cellular network.” Comcast Mot. to Exclude, Ex. 27, Expert Report of Mark Lanning Regarding Non-Infringement of U.S. Patent Number 6,885,870 (hereinafter “Lanning Report”) ¶ 108. In support of this opinion, Mr. Lanning relied on Sprint messaging architecture documents, which Mr. Lanning opines demonstrate that the accused messaging servers are within Sprint’s cellular network. Lanning Report ¶¶ 110–140. In addition, Mr. Lanning considered CDMA2000 network standard documents in opining on what elements, if any, might be part of the cellular network in a network implemented according to those standards. Lanning Report ¶¶ 82–99.

At his deposition, Mr. Lanning was asked whether it would be hypothetically possible for a cellular network operator to “own a [messaging server] and place it external to the cellular network.” Comcast Mot. to Exclude, Ex. 28; Sprint Resp. to Comcast Mot. to Exclude, Ex. A, Tr. of March 3, 2016, Dep. of Mark Lanning (hereinafter “Lanning Dep.”), at 49:10–18. Mr. Lanning opined that “I could imagine that there would be maybe a situation where that may happen.” Lanning Dep., at 49:20–21. When asked how to determine whether such a hypothetical server would be external to the cellular network, Mr. Lanning stated he would “consider . . . six or seven different factors.” Lanning Dep., at 51:10–11. Mr. Lanning stated that to determine if a particular messaging server was internal or external, he would consider: “relative position to other network elements” and “physical location or geography,” Lanning Dep., at 51:3–4, 52:10–11; “what type of interfaces and protocols are connect[ed] to the [messaging server],” Lanning Dep., at 52:17–18; “who owns the network element,” Lanning Dep., at 69:2–3; “who is operating

and controlling” the network element, Lanning Dep., at 69:4–5; and “how does the operator internally define or discuss . . . the network element,” Lanning Dep., at 69:7–9.

Comcast objects to Mr. Lanning’s non-infringement opinion on the ground that the factors referred to by Mr. Lanning fail to meet the reliability requirement of *Daubert*. Comcast argues that Mr. Lanning’s opinion fails under several of the *In re Paoli* factors. Specifically, it is Comcast’s position that Mr. Lanning’s opinion is not based on a testable hypothesis, is not peer reviewed, has no standards controlling its operation, is not generally accepted, has no relationship to methods which have been established to be reliable, and has no non-judicial uses. Comcast Mot. to Exclude, at 23–27.

The Court rejects Comcast’s argument that Mr. Lanning’s methodology is unreliable. At the outset, the Court disagrees that Mr. Lanning applied a “seven-factor analysis” in this case. The record is clear that Mr. Lanning only referred to the factors to answer a hypothetical question asked by Comcast’s counsel. Lanning Dep., at 49:10–18. With respect to non-infringement, Mr. Lanning was clear that he based his opinion on his expert reading of the ‘870 patent specification as then construed by the Court, the CDMA2000 standards, and Sprint documents. Lanning Dep., at 68:14–24. He explained that he started from the relevant cellular specifications: in Sprint’s network, “the CDMA2000 specifications which instruct that the preferred placement for the message center would be internal to the network.” Lanning Dep., at 68:14–16. He then testified that he looked to Sprint’s network architecture documents to “determine whether they deviated from the instruction, because that is not a hard and fast rule in the standards that the message center always be internal to the network.” Lanning Dep., at 68:21–24.

Comcast argues that Mr. Lanning’s analysis is unreliable under *In re Paoli* factor two (peer review), factor five (general acceptance), factor six (relationship to other known reliable methods), and factor eight (non-judicial uses). The Court rejects these arguments. Mr. Lanning based his testimony on his review of the relevant evidence and his expertise. This is sufficient foundation for reliability. “Nothing [in Rule 702] is intended to suggest that experience alone—or experience in conjunction with other knowledge, skill, training or education—may not provide a sufficient foundation for expert testimony.” Fed. R. Evid. 702 advisory committee’s note; *see Kumho Tire*, 526 U.S. at 156 (“[N]o one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience.”). Comcast has suggested no alternative basis for an expert opinion in this case. Indeed, Comcast’s expert on infringement of the ‘870 patent, Dr. Robert Akl, rebutted Mr. Lanning’s testimony with reference to the same documents relied on by Mr. Lanning, viz. the ‘870 patent specification, the CDMA2000 standards, and Sprint documents. Comcast Mot. to Exclude, Ex. 31, Reply Expert Report of Dr. Robert Akl Regarding Infringement of U.S. Patent No. 6,885,870 (hereinafter “Akl Reply Report”) ¶¶ 85–112. Moreover, Dr. Akl offered no opinion of his own as to how a person of ordinary skill would determine if an element is internal or external because he relied solely on Comcast’s claim construction of the term “cellular network,” which the Court has now rejected. *See, e.g.*, Akl Reply Report ¶ 113.

The cases relied upon by Comcast are clearly distinguishable because, unlike this case, those cases involved areas of technology in which there were clearly established principles or methodology on which to base an expert opinion, and the expert, without explanation, did not follow those established principles or methodology. *See, e.g., Kumho Tire*, 526 U.S. at 154 (“Nor, despite the prevalence of tire testing, does anyone refer to any articles or papers that

validate Carlson’s approach.”); *Elcock v. Kmart Corp.*, 233 F.3d 734, 749 (3d Cir. 2000) (“Copemann offered no explanation as to how his hybrid methodology could be rationally derived from the application of the two accepted techniques.”). Comcast has not directed the Court to any scientific literature containing a test to determine the scope of a cellular network. Nor has Comcast identified an approach other than that followed by Mr. Lanning: looking to the relevant cellular network standards and the network operator’s internal documents.

Moreover, the Court concludes that the relevant *In re Paoli* factors favor admissibility. First, Mr. Lanning’s qualifications are unchallenged; he is a highly-experienced cellular network engineer. *See In re Paoli*, 35 F.3d at 742 (factor seven: “The qualifications of the expert witness testifying based on the methodology”). In addition, Mr. Lanning explained the “existence . . . of standards controlling the technique’s operation.” *Id.* (factor four). Mr. Lanning testified at length, in response to questioning at his deposition, as to what he would consider to determine the bounds of the cellular network. This provides Comcast with the opportunity to challenge the alleged flaws in Mr. Lanning’s opinion by cross-examination and contrary expert testimony. *See Elcock*, 233 F.3d at 747 (explaining that expert must provide “the underlying hypotheses” supporting an opinion to allow other experts to “review the standards controlling the technique’s operation”). Comcast’s expert, Dr. Akl, offers no contrary opinion critiquing Mr. Lanning’s analysis because Dr. Akl rested his conclusions on Comcast’s now-rejected claim construction. *See, e.g.*, Akl Reply Report ¶ 114.

In the alternative, Comcast argues that Mr. Lanning failed to “reliably apply” the “seven-factor analysis.” Comcast Mot. to Exclude, at 27–29. The Court rejects this argument. Mr. Lanning did not apply a seven-factor analysis, as explained above. Instead, Mr. Lanning evaluated the CDMA2000 standards and how those standards are implemented in Sprint’s

network, and opined based on his experience that the Sprint documents showed that the accused messaging servers are internal in Sprint's cellular network.

Finally, Comcast argues that Mr. Lanning should not be allowed to rely on a contract executed between Comcast and Sprint to support his opinions on infringement. Comcast Mot. to Exclude, at 29–30. An expert may not offer a legal conclusion in the guise of expert testimony. *Berkeley Inv. Grp., Ltd. v. Colkitt*, 455 F.3d 195, 217 (3d Cir. 2006). However, expert testimony that implicates or touches on legal issues is not *per se* inadmissible. *Id.* at 217–18. Moreover, an expert may testify based on a document that has legal effect so long as he does not opine on the legal effect of the document. *See Roche Diagnostics Operations, Inc. v. Abbott Diabetes Care*, 756 F. Supp. 2d 598, 606 (D. Del. 2010) (“Dr. Bocarsky applied the definitions from the Agreement and did not expand their legal meaning [His] opinions were offered from the perspective of his technical knowledge and expertise”). In this case, Mr. Lanning’s testimony was based, in part, on the plain language of a contract provision and was not offered to explain the legal effect of the agreement. Lanning Report ¶ 141. Instead, Mr. Lanning considered the contract as extrinsic evidence of what elements Sprint considered to be part of its “core network.” Lanning Report ¶ 142.

For these reasons, Comcast’s Motion to Exclude the opinion testimony of Mr. Lanning with respect to infringement of the ‘870 patent is denied without prejudice to Comcast’s right to object at trial to any question or other evidence deemed inadmissible.

3. *Sprint’s Motion to Exclude Opinions of Bruce H. Stoner Jr.*

Sprint seeks to exclude the expert testimony of Comcast’s liability expert, Bruce H. Stoner Jr. Sprint challenges as speculative Mr. Stoner’s opinions regarding whether certain prior art was considered by the United States Patent and Trademark Office (“PTO”) during

reexamination of the '870 patent. Sprint also seeks to exclude as cumulative Mr. Stoner's testimony about PTO procedure generally. For the reasons that follow, Sprint's Motion to Exclude Mr. Stoner's testimony is granted in part and denied in part. The Court will exclude Mr. Stoner's testimony to the extent he speculates as to whether certain prior art was considered by the examiner. However, Mr. Stoner may testify regarding PTO rules and procedure generally.

Comcast offers Mr. Stoner's expert opinion as to whether two prior art references were considered by the PTO during examination and reexamination of the '870 patent. This is relevant because the Supreme Court has determined that prior art not considered by the examiner is entitled to "more weight" in the jury's determination of anticipation and/or obviousness. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 110–11 (2011) ("[I]f the PTO did not have all material facts before it, its considered judgment may lose significant force . . . [and] the challenger's burden to persuade the jury of its invalidity defense by clear and convincing evidence may be easier to sustain."). Specifically, Mr. Stoner opines that the examiner considered two specific references, U.S. Patent No. 5,903,726, issued to Steven R. Donovan (hereinafter "Donovan '726") and U.S. Patent No. 6,064,887, issued to Karl-Erik Kallioniemi (hereinafter "Kallioniemi"), during prosecution. Mr. Stoner opines that the PTO examiner must have considered these references despite not expressly listing them in the '870 patent or its file wrapper. Sprint Mot. to Exclude, Ex. K, Expert Report of Bruce H. Stoner Jr. (hereinafter "Stoner Report") ¶¶ 99–111.

Mr. Stoner opines that the examiner must have considered Donovan ‘726 because a divisional¹⁹ of the Donovan patent, Donovan ‘468, was included in a subclass that was searched by the examiner. Stoner Report ¶¶ 100, 105. From this, Mr. Stoner concludes that the examiner must have also considered the related Donovan ‘726 patent, but concluded that other prior art “was the best reference at her command when she rejected the claims” Stoner Report ¶ 106. Mr. Stoner supports this opinion by reference to the generic PTO rules that require the examiner to “make a thorough investigation of the available prior art” and “cite the best references at his or her command.” Stoner Report ¶¶ 102–103 (quoting 37 C.F.R. §§ 1.104(a)(1), 1.104(c)(2)). Mr. Stoner also opines that the examiner must have considered Kallioniemi because the examiner cited Kallioniemi three weeks earlier when prosecuting another patent. Stoner Report ¶¶ 108–111. In support, Mr. Stoner relies on the same generic PTO rules. Stoner Report ¶ 111.

The Court concludes that Mr. Stoner’s opinion that the examiner considered Donovan ‘726 and Kallioniemi during prosecution of the ‘870 patent must be excluded. Mr. Stoner provides no basis for his opinion that the examiner must have considered these references other than generic PTO rules that require a thorough search of the prior art. Expert testimony about the subjective knowledge or state of mind of the examiner is not admissible in the absence of any support in the record. *See, e.g., Abbott Biotechnology Ltd. v. Centocor Ortho Biotech, Inc.*, Civil Action No. 09-4089, 2014 WL 7330777, at *8 (D. Mass. Dec. 19, 2014) (“Speculation about the thought processes or reasoning of the examiner is inadmissible.”); *The Med. Co. v. Mylan Inc.*, Civil Action No. 11-1285, 2014 WL 1516599, at *4 (N.D. Ill. Apr. 17, 2014) (excluding testimony on “what the Examiner would have done or thought had she been given different

¹⁹ If a patent claims more than one independent and distinct invention, the PTO may require the application to be restricted to one invention. The patentee may file a separate application, a divisional, to claim the other invention set out in the original parent application. A divisional application is entitled to the priority date of the parent application. *See* 35 U.S.C. §§ 121.

information”). Mr. Stoner may not testify as to whether prior art that was not cited in the ‘870 patent or its file wrapper was considered by the patent examiner because such opinions are speculative.

However, Mr. Stoner may testify regarding the patent prosecution process generally and the PTO’s rules. *See, e.g., King Drug Co. of Florence, Inc. v. Cephalon, Inc.*, Civil Action Nos. 06-1797, 06-1833, 06-2768, 2015 WL 6750899, at *9 (E.D. Pa. Nov. 5, 2015) (“[O]pinions on the basic legal standards and the patent prosecution process [are admissible] . . . as long as such opinions are consistent with applicable precedent”). For example, Mr. Stoner is permitted to offer his opinion that the examiner must have considered the Donovan ‘468 divisional, because she searched class 455, subclass 466, in which Donovan ‘468 is included. *See Stoner Report* ¶ 100. Mr. Stoner may also testify, to the extent that he has the technical qualifications to do so, to any similarity between the ‘426 divisional and Donovan ‘726. *See Stoner Report* ¶ 99. This ruling is without prejudice to Sprint’s right to object at trial to Mr. Stoner’s testimony as lacking foundation, unduly cumulative, or otherwise inadmissible.

Accordingly, Sprint’s Motion to Exclude the opinions of Bruce H. Stoner Jr., is granted in part and denied in part. Mr. Stoner may opine as to PTO rules and procedure generally, provided a proper foundation is laid, but he may not testify as to the subjective knowledge or mental state of the examiner during prosecution or reexamination of the ‘870 patent.

4. *Motions to Exclude Expert Opinions on Damages*

In its Motion to Exclude, Comcast argues that the opinions of Sprint’s expert on damages for infringement of the ‘870 patent, Alan Cox, must be excluded. Sprint, in its Motion to Exclude, seeks to exclude the opinions of Comcast’s expert on damages for infringement of the ‘870 patent, Michele Riley. The Court defers ruling on the Motions to Exclude expert opinions

on damages for infringement of the '870 patent and will decide those Motions prior to trial, if necessary.

IV. SPRINT'S '907 PATENTS

Sprint alleges that Comcast's video on demand systems infringe various claims of the '907 patents. In its Motion for Summary Judgment, Comcast argues that it is entitled to judgment as a matter of law on all of Sprint's claims because no reasonable jury could conclude that Comcast's video-on-demand system infringes the '907 patents. For the reasons that follow, the Court agrees and grants Comcast's Motion for Summary Judgment of no infringement in its entirety.

Having granted Comcast's Motion for Summary Judgment of no infringement, the Court does not reach the issues presented by Comcast's Motion to Exclude the opinions of Dr. Arthur Brody on liability or the parties' Motions to Exclude various expert opinions related to damages for infringement of the '907 patents.

A. Background

The '907 patents claim closely related methods and were both filed on February 9, 2000. The '4,907 patent is titled "Remote Control of Video-on-Demand System" and was issued on June 22, 2004. The '7,907 patent is titled "Display Selection in a Video-on-Demand System" and was issued on June 29, 2004. The inventors of both patents were James Schumacher, Mike O'Brien, and Jay Cee Straley; and they assigned the patents to Sprint.

At a high level of generality, both patents claim methods for using a computer or mobile device to remotely control a video-on-demand system, and offering the user the choice of displaying video content on either a computer (or mobile device) or on a television. Both patents involve interactions between a "first communication system," which the patents define as

including “optical fiber systems, wire cable systems, and wireless link systems,” and a “second communication system,” which the patents define as the “Internet,” and “in particular, the World-Wide Web.” ‘4,907 patent, at 2:28–34; 7,907 patent, at 2:42–47. Each communications system is coupled to its own display, e.g. the first communications system is coupled to a television and the second communications system to a computer or mobile device. ‘4,907 patent, at 2:21–25; ‘7,907 patent, at 2:35–39.

Both patents also describe a known “video-on-demand” (“VOD”) system that is “configured with software and conventional communication interfaces.” ‘4,907 patent, at 2:35–37; ‘7,907 patent, at 2:49–51. In both systems, the second communications system, e.g. the Internet, is used to transmit the user’s request to the VOD system. ‘4,907 patent, at 2:47–53; ‘7,907 patent, at 2:61–67. The VOD system then transmits certain video content to a display over either communications system, e.g. coaxial cable or the Internet, in response to a request from the user. ‘4,907 patent, at 2:54–58; ‘7,907 patent, at 3:1–4.

The patents claim different aspects of this process. The ‘4,907 patent describes a method for controlling the two communications systems using two separate communication interfaces, wherein each interface is coupled to a particular communications system. ‘4,907 patent, at 2:54–64. The VOD transmits a “user control signal” to the user over the second communications system, the user transmits “video control signals” to the VOD system over a communication interface that is coupled to a particular communications system, and the VOD system in response transmits “video content signals” over the user’s selected communications system, either the first communications system, the second, or both. ‘4,907 patent, at 2:15–67. The ‘7,907 patent describes a similar method, but adds a feature that allows the viewer to choose a particular bandwidth for selected video content. ‘7,907 patent, at 6:10–15. In the ‘7,907 system, the second

communications system, e.g. the Internet, transmits the video content at a lower bandwidth than the first communications system, e.g. fiber optic or coaxial cable. '7,907 patent, at 1:61–63.

Figure 1 of the '4,907 patent, shown below, is helpful to demonstrate the interaction of the various systems, interfaces, and displays. Figure 6 of the '4,907 patent, also shown below, depicts a preferred embodiment of the invention.

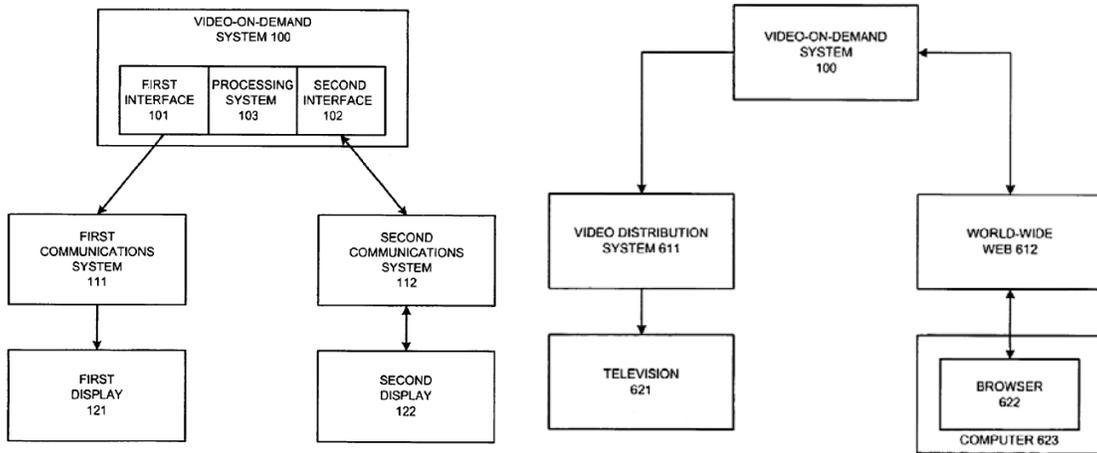


FIG. 1

FIG. 6

B. Asserted Claims

Sprint alleges that Comcast's VOD system infringes Claims 10, 12, and 16 of the '4,907 patent. Claim 10 claims:

10. A method of operating a video-on-demand system, the method comprising:
 - transferring a control screen signal to a second communication system;
 - receiving a video control signal from the second communication system;
 - implementing a viewer control selection indicated by the video control signal; and
 - transferring video content signals to a first communication interface if the first communication interface is indicated by the video control signal received from a second communication interface or transferring the video content signals to the second communication interface if the second communication interface is indicated by the video control signal.

‘4,907 patent, at 7:6–21. Claim 12 incorporates Claim 1 and adds the limitation that “implementing the viewer control selection” in step three “comprises implementing a video display control menu selection.” ‘4,907 patent, at 7:25–27. Dependent Claim 16 adds the limitation that the first step, transferring a control screen signal, “comprises interfacing with an [sic] internet.” ‘4,907 patent, at 7:38–39.

Sprint further alleges that Comcast’s VOD system infringes Claims 21, 23, and 36 of the ‘7,907 patent. Claim 21 claims:

21. A method of operating a video-on-demand system, the method comprising:
 - transferring a control screen signal indicating a control screen to a second communication system;
 - receiving a viewer control signal from the second communication system;
 - and
 - transferring first video signals to a first communication system using a first bandwidth if the first communication system is indicated by the viewer control signal or transferring second video signals to the second communication system using a second bandwidth if the second communication system is indicated by the viewer control system wherein the second bandwidth is less than the first bandwidth.

‘7,907 patent, at 7:58–8:4. Claim 23 incorporates Claim 21 and adds the limitations that step two, receiving a viewer control signal, comprises “receiving a video display menu selection signal” and step three, transferring the video content signals, comprises “processing the video display menu selection to responsively select” the communications interface. ‘7,907 patent ,at 8:7–13. Claim 36 adds the limitation that step three, transferring video signals, comprises “interfacing with an [sic] internet.” ‘7,907 patent, at 51–52.

C. Prior Claim Construction

In the August 15, 2014, Memorandum and Order, the Court construed a number of terms in the ‘907 patents, as set forth in the following table. *Comcast v. Sprint I*, 38 F. Supp. 3d at 609–618.

Term	Construction
“operating a video-on-demand system”	Operating a video-on-demand system without the use of a set-top box for remote control of the video-on-demand system
“video control signal”	A video control signal generated and processed without the involvement of a set-top box for remote control of the video-on-demand system
“viewer control signal”	A viewer control signal generated and processed without the involvement of a set-top box for remote control of the video-on-demand system
“transferring [video content signals/the video content signals]”	In response to the video control signal, transferring [video content signals/the video content signals]
“transferring [first/second] video signals”	In response to the viewer control signal, transferring [first/second] video signals
“second communication system”	Plain and ordinary meaning
“the video content signals”	Plain and ordinary meaning
“the first communications interface”	Plain and ordinary meaning
“the second communications interface”	Plain and ordinary meaning
“control screen signal”	A signal that defines a control screen
“implementing a viewer control selection”	In response to the video control signal, implementing a viewer control selection

The Court construed several terms to include the limitation “without the use of a set-top box for remote control” of the VOD system. *Comcast v. Sprint I*, 38 F. Supp. 3d at 609–615. The Court determined that the patentee disclaimed the involvement of a television set-top box in remote control of the VOD system. *Id.* at 610. The Court explained:

In describing the prior art, the patentee noted that “video-on-demand systems use a television set-top box for remote control,” which allows the “viewer [to] view a video content menu on the television,” “order video content for display on the television,” and “play, stop, pause, rewind, and fast forward the video content on the television.” ‘4,907 patent, at 1:24–30; ‘7,907 patent at 1:36–39. The problem with this arrangement, the patentee explained, is that “the set-top box is closely coupled to the television” and “does not have other uses.” ‘4,907 patent, at 1:30–32; ‘7,907 patent, at 1:39–40. Besides that it is “not mobile,” “[t]he set-top box does not have a video display” and “does not offer a selection of displays and

bandwidths.” ‘7,907 patent, at 1:41–43. While “eliminat[ing] the cost of a special television set-top box,” “[t]he invention[s] solve[.]” these shortcomings, *see* ‘4,907 patent at 1:35, 42–46; ‘7,907 patent, at 1:46, 54–55, by disclosing an enhanced video system whereby a user uses a portable computer connected over a second communications system for remote control such that a user can control the video display using his or her portable computer.

Id. (some quotations and citations omitted).

In addition, “the ‘907 specifications contain only disparaging remarks about the use of a set-top box for remote control of a video-on-demand system” and “set-top boxes are not used for remote control of the video-on-demand system in any of the disclosed embodiments.” *Id.* at 611. The Court concluded that “if a viewer was required to control the television through a set-top box, it is difficult to see what value the ‘4,907 patent would add to the prior art.” *Id.* Thus, the Court construed the preamble term “operating a video-on-demand system” in both ‘907 patents as “operating a video-on-demand system without the use of a set-top box for remote control of the video-on-demand system.” *Id.* at 612.

However, the Court also concluded that the ‘907 patents did not disclaim *all* involvement of the set-top box. *Id.* at 613. In construing the terms “video control signal” and “viewer control signal” the Court rejected Comcast’s construction that would have required these signals to be “generated and processed” without any involvement of the set-top box. The Court determined that “[t]he specification does not disparage the use of a set-top box for other purposes, such as for decoding a video signal and presenting it to a television.” *Id.* (citations and quotations omitted). For this reason, the Court construed the terms “video control signal” and “viewer control signal” to require those signals be “generated and processed without the involvement of a set-top box for remote control of the video-on-demand system.” *Id.*

D. Comcast’s Motion for Summary Judgment of No Infringement

Comcast argues in its Motion for Summary Judgment that there is no genuine dispute of material fact that its VOD system does not infringe the claims of the ‘907 patents. Specifically, Comcast avers that no reasonable jury could conclude that its system infringes the ‘907 patents because Comcast’s system uses the set-top box for remote control of the VOD system. For the reasons that follow, the Court agrees with Comcast and grants Comcast’s Motion for Summary Judgment on the ground of no infringement of the ‘907 patents.

I. Applicable Law

The United States Court of Appeals for the Federal Circuit applies the law of the regional circuit to a motion for summary judgment on the ground of no infringement. *Microsoft Corp. v. GeoTag, Inc.*, 817 F.3d 1305, 1313 (Fed. Cir. 2016). The court will grant a motion for summary judgment “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” *Id.* (quoting *Gonzalez v. Sec’y of Dep’t of Homeland Sec.*, 678 F.3d 254, 261 (3d Cir. 2012)). “A genuine dispute over a material fact exists when ‘the evidence is such that a reasonable jury could return a verdict for the nonmoving party.’” *Id.* (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986)). Expert testimony may create a genuine dispute of material fact if “the evidence overall does not make only one finding on the point reasonable.” *See MobileMedia Ideas LLC v. Apple Inc.*, 780 F.3d 1159, 1167–68 (Fed. Cir. 2015).

To grant a motion for summary judgment on the ground of no infringement, the court must conclude that “no reasonable jury could find literal infringement or infringement under the doctrine of equivalents.” *GeoTag*, 817 F.3d at 1313 (citations and quotations omitted). When determining whether a patent is infringed, the court must compare the claims as construed to the

alleged infringing devices or method. *Convolve, Inc. v. Compaq Computer Corp.*, 812 F.3d 1313, 1318 (Fed. Cir. 2016). A method patent is infringed if “all steps of a claimed method are performed by” defendant. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1022 (Fed. Cir. 2015).

2. Comcast’s VOD System

The parties do not dispute how Comcast’s VOD system operates. In Comcast’s traditional VOD system, which Sprint does not accuse of infringing the ‘907 patents, the user selects video content using a dedicated physical remote control that communicates with the set-top box using infrared or Bluetooth radio. Comcast Mot. for Summ. J., Ex. 5, Expert Report of Anthony Wechselberger regarding Non-Infringement (hereinafter “Wechselberger Report”) ¶¶ 50–53. The set-top box displays a selection menu on the television, and the user navigates the menu and selects content using the remote control. Wechselberger Report ¶ 53. The set-top box then sends a “start session” command to the VOD server over Comcast’s coaxial cable network on an out-of-band channel. Wechselberger Report ¶ 56. The VOD server then signals the set-top box to tune to the correct channel to receive the VOD content. *Id.* The set-top box confirms receipt of the correct channel and sends a play command back to the VOD server. *Id.* The VOD server then begins to stream the content on the channel and the set-top box tunes to the correct channel to receive the content. *Id.* The set-top box decodes the incoming stream, and outputs video and sound to the television. *Id.*

Comcast provides other ways for its users to select and display VOD content. Sprint accuses two Comcast systems, specifically Comcast’s “Remote Tune”²⁰ and “Remote Play”²¹ systems, of infringing the ‘907 patents. In Remote Tune, the user can select VOD content using their mobile phone or computer for display on their television. In Remote Play, a mobile device or computer is used to both select and display VOD content.

Comcast’s Motion for Summary Judgment of no infringement is based on its Remote Tune system. In Comcast’s Remote Tune system, a user logs into either Comcast’s website or a Comcast mobile app and selects video content for display on her television. Sprint Counter Statement of Material Facts (hereinafter “Sprint CSMF”) ¶¶ 36–37, 40, 44–45. The request for selected video content is then sent via the Internet to a server that Comcast refers to as the Comcast Messaging System. Sprint CSMF ¶¶ 45, 47; Wechselberger Report ¶ 120.²² The Comcast Messaging System then sends a signal to the set-top box over Comcast’s coaxial network with the identity of the video content selected by the user and instructions to open a VOD session. Sprint CSMF ¶¶ 52–53. The set-top box opens a VOD session by sending a “start session” message to the VOD system over Comcast’s coaxial network on an out-of-band channel. Sprint CSMF ¶ 57; Wechselberger Report ¶ 125. It is undisputed that the “start session” message includes the identity of the video content selected by the user. Comcast Mot. for Summ.

²⁰ A number of different Comcast apps are accused, including, among others, the Xfinity TV Remote apps for iOS and Android. For simplicity, the Court will adopt the parties’ nomenclature and refer to these apps and systems collectively as “Remote Tune.” *See* Sprint Resp. to Mot. for Summ. J., Ex. P.

²¹ The parties refer to a number of different Comcast systems and apps, including the Fancast system, the Streampix system, the Xfinity TV Go apps for iOS and Android, the X1 Xfinity TV app for iOS and Android, and the Xfinity website. The Court will refer to these apps and systems collectively as “Remote Play.” *See* Sprint Resp. to Mot. for Summ. J., Ex. P.

²² The parties dispute whether the Comcast Messaging System should be considered part of Comcast’s VOD system. As explained below, this dispute is not material to the resolution of Comcast’s Motion for Summary Judgment.

J., Ex. 6, Expert Report of Dr. Arthur Brody on Infringement (hereinafter “Brody Report”) ¶¶ 42–44; 83. In response, as in Comcast’s conventional VOD system, the VOD server instructs the set-top box to tune to a particular channel, the set-top box sends a play command, the VOD server begins streaming, the set-top box tunes, decodes, and transmits video and audio to the television. Brody Report ¶ 43.

3. *Discussion*

The asserted claims of the ‘907 patents require that two different “communication interfaces” or “communication systems” be available for transmission of video content. *See* ‘4,907 patent, at 7:6–21; ‘7,907 patent, at 7:58–8:4. For Comcast’s system to infringe the final “transferring” limitation of both ‘907 patents, it must provide two “communication systems.” Sprint argues that Comcast’s system infringes this limitation because it offers users a choice between a first communication system (e.g., Remote Tune over Comcast’s coaxial cable network) and a second communication system (e.g., Remote Play over the Internet). Because Sprint accuses a combination of Remote Tune and Remote Play of infringing the asserted claims, both Remote Tune and Remote Play must separately infringe. If either Remote Tune or Remote Play does not infringe, all of Sprint’s infringement claims fail.

Comcast argues that the Court should grant its Motion for Summary Judgment on the ground that no reasonable jury could conclude that the Comcast Remote Tune system infringes the ‘907 patents because the start session message constitutes “the use of a set-top box for remote control of the video-on-demand system.” It is Sprint’s position that there are genuine disputes of material fact as to whether Remote Tune infringes the set-top box limitation. Specifically, Sprint offers the opinion of its expert, Dr. Arthur Brody, who opines that the start session message is not remote control, but rather falls within what the Court described as “the use of a set-top box

for other purposes, such as for decoding a video signal and presenting it to a television.” *See Comcast v. Sprint I*, 38 F. Supp. 3d at 613.

The Court agrees with Comcast that no reasonable finder of fact could conclude that the Comcast Remote Tune system infringes the ‘907 patents. There is no ambiguity in the Court’s prior claim construction, which included the limitation “without the use of a set-top box for remote control of the video-on-demand system” in the preamble of all of the asserted claims of the ‘907 patents. The set-top box cannot be involved in remote control of the VOD system, at any step, prior to the VOD system sending video to the television. If the set-top box is involved, the limitation of the preamble is not met and there is no infringement.

In Comcast’s Remote Tune system, it is undisputed that before any video content is sent by the VOD system, the set-top box sends a start session message to the VOD system. That message includes, among other things, the video content selected by the user. Without the communications sent by the set-top box to the VOD system, the VOD system does not send video content to the television and nothing happens. Thus, the set-top box is involved in remote control of the VOD system in order for Comcast’s Remote Tune system to function. Comcast’s set-top box is more than a passive receiver that decodes and displays VOD content; it plays an active role in remotely controlling the VOD system.

Moreover, to infringe the ‘907 patents, the VOD system must implement a “viewer control signal” that is “generated and processed without the involvement of a set-top box for remote control.” To perform the claimed method, the infringing system must “implement[] a viewer control selection indicated by the video control signal.” ‘4,907 patent, at 7:12–14; *see also* ‘7,907 patent, at 7:64–66 (“transferring . . . video signals to a first communication

system . . . if . . . indicated by the viewer control signal”). The role of the viewer control signal is described in the ‘907 patents as follows:

In response to viewer input to the control signal, the second display transfers a corresponding viewer control signal to the second communications system. The second communications system transfers the viewer control signal to the second communications interface. The second communication[s] interface transfers the video signal to the processing system. The processing system transfers video signals to either the first communication interface or the second communication interface in response to the viewer control signal.

‘4,907 patent, at 2:47–53; ‘7,907 patent, at 2:61–3:4. The viewer control signal is not “implemented,” and “generated and processed,” until the processing system transfers video signals to either the first communication interface or the second communication interface. In Comcast’s Remote Tune, no video is transferred to the first communication interface (i.e., Comcast’s coaxial cable network) until after the set-top box sends a start session message to the VOD system. Thus, the set-top box is necessarily involved in generating and processing the viewer control signal.

The Court rejects Sprint’s arguments to the contrary. Sprint argues that remote control as used in the ‘907 patents “refers to ‘discovering, previewing, and selecting content’—a process that ends before any ‘upstream’ messaging from the set-top box is sent to the Comcast VOD system.” Sprint Resp. to Mot. for Summ. J., at 5. In support of this, Sprint’s expert, Dr. Arthur Brody, opines that “[r]emote control as described in [the ‘907 patents] describes the search for video content on the second device and selection on that device of video content” and “the selection of a display on which to play the video content.” Sprint Resp. to Mot. for Summ. J., Ex. S, Expert Report of Dr. Arthur Brody in Reply to the Expert Report of Anthony Wechselberger (hereinafter “Brody Reply Report”) ¶¶ 28–29. Dr. Brody opines that the start session messages and the “provisioning process” that occurs between the set-top box and the VOD system prior to

video playback is not remote control because remote control is complete when the Comcast Messaging System sends the signal to the set-top box with instructions to begin the VOD session. Brody Reply Report ¶ 38. At oral argument, counsel for Sprint argued that remote control is complete when the decision to watch content is made. June 24, 2016, PM Pt. 1 Hr’g Tr., at 39:5–10 (“You’ve done the remote controlling. You’ve made your selection to the menu—you’ve hit play, for example . . .”). Sprint’s position is that as long as the set-top box is not involved in displaying a menu or an interface for the user, it is not involved in remote control. June 24, 2016, PM Pt. 1 Hr’g Tr., at 61:5–19.

The Court rejects this argument. The ‘907 patents “eliminate” the cost of a “special television set-top box,” ‘4,907 patent, at 1:42–43, ‘7,907 patent, at 1:54–55, by allowing the user to “control *the video display* using [a] portable computer.” ‘4,907 patent, at 1:40–41 (emphasis added); *see* ‘7,907 patent, at 1:50–53 (“[T]he viewer can preview video content on their portable computer using a cheap web connection before selecting video content for television viewing.”). As the Court explained in finding a disavowal of scope, “*replacement* of the set-top box with a portable computer allows the viewer to *control the television remotely* through the computer . . .” *Comcast v. Sprint I*, 38 F. Supp. 3d at 610 (emphasis added). The ‘907 patents unambiguously use the term “remote control” to mean control of a television with a laptop computer or mobile device. Comcast’s Remote Tune system inextricably makes use of the set-top box to send signals to the VOD system that result in the VOD system sending video content

for display on the television. It is not, and cannot be, replaced by a computer, as contemplated by the '907 patents.²³

Sprint relies on a single line in the Court's August 15, 2014, Memorandum, in which the Court rejected Comcast's proposed construction of the terms "video control signal" and "viewer control signal." Comcast's proposed construction was that these signals must be generated and processed "without the involvement of a set-top box." *Comcast v. Sprint I*, 38 F. Supp. 3d at 612–13. The Court rejected this construction because it might be read to disclaim involvement of the set-top box in decoding and displaying video content sent by the VOD system. *Id.* at 613. ("The specification does not disparage the use of a set-top box for other purposes, such as for decoding a video signal and presenting it to a television [I]n requiring that the two control signals be 'generated and processed without [any] involvement of the set-top box,' Comcast overreaches." (some citations and quotations omitted)). Because the Court left open the possibility of other purposes for the set-top box in addition to decoding and presenting, Dr. Brody characterizes the start session message as akin to "decoding." Brody Reply Report ¶¶ 41–42. Based on this testimony, Sprint argues that there is a genuine dispute of material fact as to infringement because the finder of fact must determine whether the start session message constitutes disclaimed remote control or permissible decoding. The Court rejects this argument

²³ The parties devoted considerable time to the issue of whether a person of ordinary skill would understand a set-top box to have the capability to send "upstream" signals. Sprint relies on language in the '4,907 patent that it argues contemplates the use of the set-top box to fast forward or control video that is already playing on the user's television. Sprint Resp. to Mot. for Summ. J., at 6; *see* '4,907 patent, at 5:1–3. To the extent that Sprint is attempting to re-litigate the Court's determination that the '907 patents disavow use of the set-top box for remote control, the Court again rejects that argument for the reasons stated in the August 15, 2014, Memorandum. To the extent Sprint argues that the ability of the set-top box to send upstream signals alone creates a genuine dispute of material fact, the Court rejects this argument because whether the set-top box sends an upstream signal in contexts other than remote control of the VOD system is irrelevant to infringement.

because no reasonable finder of fact could conclude that the start session message is anything other than remote control of the VOD system.

In the August 15, 2014, Memorandum, the Court construed the term “video/viewer control signal” as “a video/viewer control signal generated and processed without the involvement of a set-top box *for remote control.*” *Comcast v. Sprint I*, 38 F. Supp. 3d at 613. In construing that term, the Court rejected Comcast’s proposed construction, which was “a video/viewer control generated and processed without the involvement of a set-top box.” *Id.* Sprint now argues that the Court’s rejection of Comcast’s proposed construction leaves open the possibility of involvement of the set-top box in generating the video/viewer control signal prior to video display on the television, and thus that the start session message is not part of the “video/viewer control signal.” To the extent that Sprint reads this language in the Court’s claim construction opinion to allow for the set-top box to be involved prior to the VOD system sending video through the first communication interface, the Court rejects this reading.

The ‘907 patents use the term “remote control” to refer to control of the video display, e.g. the television. *See* ‘4,907 patent, at 1:40–41; ‘7,907 patent, at 1:50–53. For the reasons explained in the Court’s claim construction opinion, the set-top box may not be involved in remote control of the VOD system and thus may not be involved in any way *before* the VOD system sends video to the set-top box for display on the television.

However, the Court also concluded that the specifications of the ‘907 patents did not disparage involvement of the set-top box *after* the VOD system begins sending video to the television. The ‘907 patents claim a method of operating a VOD system, and thus are unconcerned with what happens to video signals after the VOD system has been remotely controlled and is sending video to the television. After the VOD system sends video to the set-

top box for display on the television, the set-top box may decode the video for presentation on the television. *Comcast v. Sprint I*, 38 F. Supp. 3d at 613 (“The specification does not disparage the use of a set-top box for other purposes, such as for decoding a video signal and presenting it to a television.”). These uses of the set-top box do not involve remotely controlling the VOD system and video display using the laptop computer. *See* ‘4,907 patent, at 1:40–41; ‘7,907 patent, at 1:50–53. There is no difference between the Court’s construction of viewer control signal and Comcast’s proposed construction except that the Court’s construction removes any possible ambiguity regarding the allowed involvement of the set-top box *after* remote control is complete and the VOD system sends video for display on the television.

The start session message in Comcast’s Remote Tune system cannot be akin to “decoding” or “presenting,” because unless the set-top box sends a start session message, the VOD system does nothing and no video is sent to the television for display. Thus, remote control of the VOD system, meaning all steps necessary to cause the VOD system to send video for display on the television, is not complete without the involvement of the set-top box in the form of the start session message. No reasonable finder of fact could conclude that the start session messages sent by the set-top box in Comcast’s system are not the disclaimed “use of a set-top box for remote control of the video-on-demand system.”

For these reasons, the Court grants Comcast’s Motion for Summary Judgment on the ground of no infringement of the ‘907 patents.

E. Motions to Exclude Expert Opinions Related to the ‘907 Patents

Because the Court grants Comcast’s Motion for Summary Judgment of no infringement, there are no remaining claims based on the ‘907 patents. For this reason, the parties’ respective Motions to Exclude expert opinions relating to the ‘907 patents are denied as moot.

V. CONCLUSION

The disputed terms in the '870 patent as construed as follows: "cellular network" as "a network comprised of a wireless terminal, a base station system for communicating with the wireless terminal, and core network elements, which may include subscriber databases (such as a home location register), mobile switching centers, packet switching nodes, and messaging servers," and "messaging server" as "a server that has functionality for storing and forwarding messages and for sending an inquiry for information relating to a wireless terminal."

Sprint's Motion for Summary Judgment on the grounds of ineligibility of the '870 patent under 35 U.S.C. § 101 and invalidity under 35 U.S.C. § 112, paragraph 2, is denied. Comcast's Motion for Summary Judgment on the ground of no anticipation under 35 U.S.C. § 102 over Vuoristo is granted. Comcast's Motion for Summary Judgment on the ground of no anticipation over GSM 3.60 and Huopaniemi is denied. Sprint's Motion for Summary Judgment on the ground of license to practice the '870 patent in SPS is denied and Comcast's Motion for Summary Judgment on the ground of no license is granted.

Comcast's Motion to Exclude the expert opinions of Mark R. Lanning is denied. Sprint's Motion to Exclude the expert opinions of Bruce H. Stoner Jr. is granted in part and denied in part. The parties' Motions to Exclude damages opinions related to the '870 patent, Comcast's Motion to Exclude the expert opinions of Alan Cox and Sprint's Motion to Exclude the expert opinions of Michele Riley, are deferred. The Court will decide them prior to trial, if necessary.

Comcast's Motion for Summary Judgment on the ground of no infringement of the '907 patents is granted. The remaining Motions to Exclude expert opinions relating to the '907 patents are denied as moot.

An appropriate order follows.