IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TC TECHNOLOGY LLC, Plaintiff, v. SPRINT CORPORATION and SPRINT SPECTRUM, L.P., Defendants.	Civil Action No. 16-cv-00153-RGA

MEMORANDUM OPINION

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ANDREWS, U.S. DISTRICT JUDGE:

Before the Court is the issue of claim construction for the term "central location" in U.S. Patent No. 5,815,488 ("the '488 patent"). The Court has considered the parties' briefs. (D.I. 435, 439, 443).

I. BACKGROUND

TC Tech filed this action on March 10, 2016, alleging that Sprint infringed the '488 patent with certain wireless services on its LTE network. (D.I. 1). TC Tech asserts two independent method claims of the '488 patent, both of which include the disputed "central location" term. The claims provide:

> 1. A method for enabling a plurality of remote locations to transmit data to a *central location* comprising the steps of:
>
> at each remote location, coding data to be transmitted by translating each group of one or more bits of said data into a transform coefficient associated with a particular baseband frequency in a particular subset of orthogonal baseband frequencies allocated to the remote location, the particular subset of orthogonal baseband frequencies allocated to each remote location being chosen from a set of orthogonal baseband frequencies, the subsets of baseband frequencies allocated to each remote location being mutually exclusive[;]
>
> at each remote location, using an electronic processor, performing an inverse orthogonal transformation on said transform coefficients to obtain a block of time domain data;
>
> at each remote location, utilizing a modulator to modulate said block of time domain data onto a carrier signal for transmission to said *central location*, said carrier signal having the same carrier frequency for each remote location;
>
> receiving at said *central location* from one or more of said remote locations, one or more blocks of time domain data modulated on one or more of said carrier signals;
>
> using a demodulator, demodulating said one or more blocks of time domain data from the carrier frequency signal[;]

performing said orthogonal transformation on said demodulated time domain data to reconstruct said transform coefficients, and

translating said transform coefficients into said data to be translated from each remote location.

2. A method for enabling a plurality of remote locations to transmit data to a *central location* comprising the steps of:

at each remote location, coding data to be transmitted by translating each group of one or more bits of said data into a transform coefficient associated with a particular baseband frequency in a particular subset of orthogonal baseband frequencies allocated to the remote location, the particular subset of orthogonal baseband frequencies allocated to each remote location being chosen from a set of orthogonal baseband frequencies, the subsets of baseband frequencies allocated to each remote location being mutually exclusive;

at each remote location, using an electronic processor, performing an inverse orthogonal transformation on said transform coefficients to obtain a block of time domain data;

at each remote location, utilizing a modulator to modulate said block of time domain data onto a carrier signal for transmission to said *central location*, said carrier signal having the same carrier frequency for each remote location[;]

receiving at said *central location* from one or more of said remote locations, one or more blocks of time domain data modulated on one or more of said carrier signals;

using a demodulator, multiplying said received one or more blocks of time domain data with in-phase and quadrature carrier signals to obtain in-phase and quadrature baseband signals, converting said in-phase and quadrature baseband signals to digital form, and using an electronic processor, performing said orthogonal transform using said in-phase and quadrature baseband signals as real and imaginary values, respectively, to demodulate said one or more blocks of time domain data from the carrier frequency signal, and

performing said orthogonal transformation on the demodulated time domain data to reconstruct said transform coefficients.

'488 patent, col. 10:47–12:24 (emphasis added).

II. LEGAL STANDARD

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). "'[T]here is no magic formula or catechism for conducting claim construction.' Instead, the court is free to attach the appropriate weight to appropriate sources 'in light of the statutes and policies that inform patent law.'" *SoftView LLC v. Apple Inc.*, 2013 WL 4758195, at *1 (D. Del. Sept. 4, 2013) (quoting *Phillips*, 415 F.3d at 1324) (alteration in original). When construing patent claims, a court considers the literal language of the claim, the patent specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977–80 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Of these sources, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315 (internal quotation marks omitted).

"[T]he words of a claim are generally given their ordinary and customary meaning. . . . [Which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312–13 (citations and internal quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). "In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314.

When a court relies solely upon the intrinsic evidence—the patent claims, the specification, and the prosecution history—the court's construction is a determination of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). The court may also make factual findings based upon consideration of extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317–19 (internal quotation marks omitted). Extrinsic evidence may assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. *Id.* Extrinsic evidence, however, is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.*

"A claim construction is persuasive, not because it follows a certain rule, but because it defines terms in the context of the whole patent." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GMBH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (citation and internal quotation marks omitted).

III. CONSTRUCTION OF DISPUTED TERMS

A. The '488 Patent

1. "central location"

   a. *Plaintiff's proposed construction*: plain meaning, which is "the equipment (hardware and software) at a single location needed to receive communications from a plurality of remote locations"

   b. *Defendants' proposed construction*: "a physical site containing the equipment used to communicate with each and every remote location in communication with that site. The 'central location' includes all of the equipment at the physical site, not just one or more subsets of the equipment, components, and processes located at the site. In a cellular network, the 'central location' is a cellular base station."

c. *Court's construction*: "the equipment at a physical location that performs the claimed functions of the 'central location'"

The parties previously did not dispute the meaning of "central location." (*See* D.I. 354 at 9). When a disagreement about "central location" did arise, I declined to construe the term because the parties disputed a factual issue: "whether an individual base station sector in Sprint's LTE network can be considered a 'central location' such that it meets the 'mutually exclusive' limitation." (*Id.*). The parties now dispute the meaning of "central location," a question of law. Thus, I will construe the term.

In construing the meaning of "central location," the dispute between the parties boils down to whether the term allows for more than one "central location." (*See* D.I. 443 at 3–4). Plaintiff argues that the claim language supports its construction because it limits the equipment of the "central location" to that "needed to receive communications from a plurality of remote locations." (D.I. 439 at 10). Thus, Plaintiff defines "central location . . . by reference to the remote locations which transmit to the same equipment." (*Id.* at 11). Under its construction, Plaintiff contends that there can be more than one "central location." (*Id.* at 15). Defendants counter that the common use of the word "location" and the "surrounding claim language" show that the "central location" is a "physical site and includes all of the equipment located there." (D.I. 435 at 4). Defendants thus argue that a "central location" is a "unitary site" and that the specification does not support "multiple 'central locations' at a single site." (*Id.* at 1).

"Central location" can be construed from the plain meaning of the term and the context of the claim language. The specification does not suggest any other limitation on the term. Claims 1 and 2 recite a method of transmitting data between "remote locations" and "a central location." '488 patent, col. 10:47–48, 11:12–13. The Federal Circuit "has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-

ended claims containing the transitional phrase 'comprising.'" *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000). This is the instant circumstance. Claims 1 and 2 of the '488 patent are open-ended claims that describe a method "comprising" specific steps. *See* '488 patent, col. 10:47–48, 11:12–13. The claimed method transmits data from "remote locations" to "a central location." *Id.* Thus, the use of the indefinite article "a" before "central location" implies that there may be one or more "central locations."

Claims 1 and 2 also indicate that the "central location" itself must be able to perform the claimed functions. The '488 patent describes the functions performed by the "central location" to include demodulating data (11:4–6, 12:11–20), performing orthogonal transformation on data (11:7–9, 12:22–24), and translating transform coefficients (11:10–11). A "physical site," as proposed by Defendants, cannot perform these functions. They must be performed by equipment at that physical location.

Plaintiff's proposed construction adds the limitation "(hardware and software)" to the construction, specifying the types of equipment that make up the "central location." (D.I. 439 at 3). Plaintiff states that "this meaning is discerned from the face of the claims themselves" but does not otherwise show how the patent supports the limitation. (*Id.*). Including "(hardware and software)" in the construction would therefore be an improper additional limitation. It is also improper to include this limitation in the construction because what constitutes the "central location" equipment is a question of fact for trial.

Therefore, I construe "central location" to mean "the equipment at a physical location that performs the claimed functions of the 'central location.'"

III. CONCLUSION

An order consistent with this Memorandum Opinion will issue.