

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

TC TECHNOLOGY LLC,

Plaintiff,

v.

SPRINT CORPORATION AND PRINT  
SPECTRUM, L.P.,

Defendants.

Civil Action No. 1:16-cv-00153-RGA

MEMORANDUM OPINION

Kelly E. Farnan, Esq., RICHARDS, LAYTON & FINGER, P.A., Wilmington, DE; Katharine L. Mowery, RICHARDS, LAYTON & FINGER, P.A., Wilmington, DE; Lawrence J. Gotts, Esq. (argued), LATHAM & WATKINS LLP, Washington, D.C.; Saswat Misra, Esq., LATHAM & WATKINS LLP, Washington, D.C.; Stephanie N. Grace, Esq., LATHAM & WATKINS LLP, San Diego, CA; Anant K. Saraswat, Esq. (argued), LATHAM & WATKINS LLP, Boston, MA.

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ANDREWS, U.S. DISTRICT JUDGE:

Presently before the Court is the issue of claim construction of multiple terms in U.S. Patent No. 5,815,488 (“the ’488 patent”). The Court has considered the Parties’ Joint Claim Construction Brief. (D.I. 71). The Court heard oral argument on September 11, 2017. (D.I. 89).

## **I. BACKGROUND**

Plaintiff filed this action on March 10, 2016, alleging infringement of the ’488 patent. (D.I. 1). The patent-in-suit claims a method for allowing multiple remote locations to simultaneously transmit data via a shared channel to a single central location.

## **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). “[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.

“[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 omitted). “[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent.” *Id.* at 1321. “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. 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 omitted).

### III. CONSTRUCTION OF DISPUTED TERMS

The '488 patent is directed to a method for enabling a plurality of remote locations (or users) to share a channel to simultaneously transmit data to a central location with a high degree of immunity to channel impairments. Claim 2 is representative and reads as follows:

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, claim 2) (disputed terms italicized).

1. “the subsets of baseband frequencies allocated to each remote location being mutually exclusive”

- a. *Plaintiff’s proposed construction:*  
*sub-term 1: “the subsets of baseband frequencies being mutually exclusive”:* “the subsets of baseband frequencies having no overlap in baseband frequencies in a time slot”  
*sub-term 2: “allocated to each remote location”:* “variably assigned to each remote location depending on a relative amount of data each remote location has to transmit”
- b. *Defendants’ proposed construction:* “wherein each subset of baseband frequencies is assigned to only one remote location in a time slot”
- c. *Court’s construction:* “for any given time slot, no individual baseband frequency is allocated to more than one remote location”

Prior to the *Markman* hearing, the parties agreed to the following construction proposed by the Court: “for any given time slot, no individual baseband frequency is allocated to more than one remote location.” (D.I. 82).

2. “allocated to the remote location”

- a. *Plaintiff’s proposed construction:* “variably assigned to the remote location depending on a relative amount of data the remote location has to transmit”
- b. *Defendants’ proposed construction:* “assigned to the remote location”
- c. *Court’s construction:* “plain meaning”

The parties dispute whether “allocated to” requires variable assignment of frequencies to the remote location. Plaintiff argues that the ’488 patent disclosure requires variable assignment, asserting that “the specification’s sole description of the ‘allocation’ scheme” requires allocation based “on how much data the remote location has to transmit to the headend.” (D.I. 71 at 19 (citing ’488 patent at 5:50–56) (emphasis omitted)). Because the amount of data to be transmitted may vary over time, Plaintiff argues, a person of ordinary skill in the art would know that the assignment of baseband frequencies to remote locations must be variable across time slots. (D.I. 71 at 19–20). Defendants counter that adopting a variable assignment construction

would “improperly import a limitation into the claims from an exemplary embodiment,” and that nothing in the specification limits the invention to Plaintiff’s variable allocation construction. (D.I. 71 at 24). Defendants also assert that Plaintiff’s construction is incorrect because it would exclude a fixed allocation embodiment disclosed in the specification. (D.I. 71 at 25 (citing ’488 patent at 7:28–30)). Defendants urge a construction substituting “assigned” for “allocated,” asserting that the specification uses the two terms interchangeably. (D.I. 71 at 21–22).

The patent claims explicitly state that the allocation of baseband frequencies must be mutually exclusive, but the claims do not mention variable allocation. The specification twice discusses variable allocation of *n* values, each time only as a permissive limitation. (’488 patent at 5:60–62; 7:30). I agree with Defendants that requiring variable assignment would improperly import a limitation from the specification into the claims. I do not believe that the jury will have trouble understanding the term “allocated” and thus see no reason to substitute “assigned” for “allocated.” Therefore I decline to adopt either Plaintiff’s proposed construction or Defendants’ proposed construction. I will construe “allocated to the remote location” to have its plain and ordinary meaning.

3. “transform coefficient”

- a. *Plaintiff’s proposed construction*: “plain meaning”
- b. *Defendants’ proposed construction*: “symbol representing a group of one or more bits of data assigned to a particular baseband frequency”
- c. *Court’s construction*: “value used as an input to a transform”

During oral argument the parties agreed to consistent constructions of the terms “transform coefficient” and “transform coefficients” throughout the patent in lieu of adopting separate constructions for each phrase in the claims containing those terms. (D.I. 89 at 57:5–10, 59:23–25). The parties agreed to construe “transform coefficient” as “value used as an input to a

transform” and to construe “transform coefficients” as “values used as inputs to a transform.” (D.I. 89 at 55:18–22, 56:16–21).

4. “quadrature signals”

- a. *Plaintiff’s proposed construction*: “plain meaning”
- b. *Defendants’ proposed construction*: “signals that differ in phase by ninety degrees”
- c. *Court’s construction*: “signals that differ in phase by ninety degrees”

The parties do not dispute that “quadrature signals” has a plain meaning understood by those of ordinary skill in the art. (D.I. 89 at 26:17–22; 36:5–8). Both Plaintiff and Defendants understand that meaning to be signals that differ by ninety degrees subject to some implementation imprecision in practice. (D.I. 89 at 30:22–31:1, 37:17–23). At this time, however, the parties cannot determine their positions regarding the appropriate degree of implementation imprecision for the technology at issue. (D.I. 89 at 32:6–15; 33:11–22).

I believe Defendants’ proposed construction captures the plain and ordinary meaning of the term “quadrature signals.” Therefore, as discussed and agreed to during oral argument, I will adopt Defendants’ proposed construction, but I would be happy to revisit this issue at a later point in the case if necessary. (D.I. 89 at 37:24–38:19, 40:10–23).

#### IV. CONCLUSION

Within five days the parties shall submit a proposed order consistent with this Memorandum Opinion suitable for submission to the jury.