IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TQ DELTA LLC, Plaintiff, v. DISH NETWORK CORPORATION, et al., Defendants.	Civil Action No. 15-614-GBW

MEMORANDUM ORDER

Pending before the Court is Plaintiff TQ Delta, LLC's ("TQ Delta" or "Plaintiff") Motion for Reconsideration of the Court's January 8, 2024 Oral Order (the "Order") (D.I. 527), denying TQ Delta's Motion to Strike certain opinions from the expert report of Dr. Stephen B. Wicker (D.I. 507). D.I. 531. TQ Delta asks the Court to reconsider its decision upholding Dr. Wicker's opinions interpreting the term "phase characteristics," as recited in the claims of the '158 Patent, and "phases," as recited in the claims of the '243 Patent, (hereinafter, "Dr. Wicker's Phases Opinion"). *Id.* Defendants DISH Network Corp., DISH Network LLC, DISH DBS Corp., and EchoStar Corp. (collectively, "DISH" or "Defendants"), oppose the Motion for Reconsideration and oppose TQ Delta's request to strike Dr. Wicker's Phase Opinion. D.I. 508; D.I. 533. Also pending before the Court is TQ Delta's Motion to Strike Dr. Wicker's expert opinion interpreting the term "on" in the context of the phrase "modulating [data bits] on" a carrier signal (hereinafter, the "modulating data theory"). D.I. 507; D.I. 530. Having reviewed each motion and all associated briefing, (1) TQ Delta's Motion for Reconsideration is GRANTED; (2) TQ Delta's Motion to Strike Dr. Wicker's Phases Opinion is GRANTED; and (3) TQ Delta's Motion to Strike Dr. Wicker's modulating data theory is GRANTED.

I. LEGAL STANDARD

The purpose of a motion for reconsideration is to correct manifest errors of law or fact or to present newly discovered evidence. *Max's Seafood Café ex. rel. Lou-Ann, Inc. v. Quinteros*, 176 F.3d 669, 677 (3d Cir. 1999). D. Del. LR 7.1.5 provides that a "motion for reargument" may be filed within 14 days after the Court issues an opinion or decision and will be "sparingly granted." Reargument may be appropriate where the Court "has patently misunderstood a party or has made a decision outside the adversarial issues presented to the [C]ourt by the parties, or has made an error not of reasoning but of apprehension." *Ladatech, LLC v. Illumina, Inc.*, 2012 WL 13207778, at *1 (D. Del. Feb. 14, 2012).

Experts are obliged to follow the Court's claim construction. *See TwinStrand Biosciences Inc. et al v. Guardant Health Inc.*, 21-cv-1126-GBW-SRF, D.I. 466 (D. Del. Oct. 31, 2023). When the parties "raise an actual dispute regarding the proper scope of . . . claims, the court, not the jury, must resolve that dispute." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

II. ANALYSIS

1. Reconsideration is Necessary to Correct the Court's Misapprehension of TQ Delta's Argument.

The asserted claims of U.S. Patent No. 9,014,243 (the "'243 patent") recite a "phase scrambler," which the Court construed to mean "component operable to adjust the phases of the carrier signals, by pseudo-randomly varying amounts." D.I. 202 at 2. DISH's expert, Dr. Wicker, opined that "operating on an IQ pair is not 'adjust[ing] the phases of the carrier signals' under the plain meaning of the term 'phases,'" where "'phases' are physical properties of carrier signals." D.I. 531 Ex. A ("Wicker Report") at ¶ 412. Dr. Wicker was distinguishing "phases" as

recited in the '243 patent from "phase characteristic" as recited in the related '158 patent. Neither "phase characteristic" nor "phases" has been construed in this case, but "phase characteristic" was construed in *TQ Delta LLC v. ADTRAN Inc.*, No. 14-cv-954-RGA. D.I. 1377 (D. Del. Mar. 1, 2022). TQ Delta's expert, Dr. Madisetti, applied the construction of "phase characteristic" from *ADTRAN* to "phases" in this case. Dr. Wicker provided a non-infringement opinion assuming this construction, but also provided an opinion in the event that "phases" and "phase characteristics" are construed to be different. This opinion—an alternative opinion distinguishing an infringement analysis based on a claim not construed in this case—was the subject of TQ Delta's motion to strike and this motion for reconsideration.

TQ Delta moved to strike Dr. Wicker's opinion on the basis that it was inconsistent with the Court's prior finding that "nothing in the claims or the descriptions of example embodiments supports Defendants' argument that the phase scrambling occurs after modulation." D.I. 199 at 10-11. TQ Delta argued that Dr. Wicker's contention that, if phases are physical properties, then Defendant does not infringe, was an attempt to reargue that a carrier signal must be a wave. D.I. 507 at 3. The Court denied TQ Delta's motion to strike on the ground that the Court had not adopted the *ADTRAN* Court's interpretation of phase characteristics. D.I. 527. The Court, in doing so, misapprehended TQ Delta's argument and did not fully appreciate that Dr. Wicker's Phases Opinion was inconsistent with the Court's prior claim construction orders in this matter. The Court now understands that, in denying TQ Delta's Motion to Strike, it misunderstood TQ Delta's argument. The Court, therefore, agrees with TQ Delta that reconsideration is necessary to correct an error of apprehension. Accordingly, the Court GRANTS TQ Delta's Motion for Reconsideration.

2. Dr. Wicker Misconstrues the Term "Phases".

Having reconsidered Dr. Wicker's Phases Opinion and all related briefing, the Court finds that Dr. Wicker asserts an interpretation of the term "phases" that is inconsistent with the '243 patent specification and the Court's prior *Markman* Opinion. Wicker Report ¶¶ 411-13. Therefore, TQ Delta's Motion to Strike is GRANTED.

i. *Dr. Wicker's construction of "phases" is inconsistent with the '243 patent specification.*

In his report, Dr. Wicker opines that "[a] person of skill in the art would understand that 'phases' [of the '243 patent] are physical properties of carrier signals." Wicker Report ¶ 412. Thus, Dr. Wicker contends that "the term 'phases,'" as used in the '243 patent, must be construed "differently from the term 'phase characteristics' of the '158 patent."[1] *Id.* The Court disagrees.

While the claims of the '243 patent refer only to the "phases" of carrier signals,[2] a closer review of the patent's specification reveals that the terms "phases" and "phase characteristics" are used interchangeably. In fact, in summarizing the prior art, the specification the '243 patent introduces the term "phase" as a shorthand alternative to "phase characteristic." *See* '243 patent at 1:40-45 ("The DMT transmitter typically modulates ***the phase characteristic, or phase,*** and amplitude of the carrier signals using an Inverse Fast Fourier Transform (IFFT) to generate a time domain signal, or transmission signal, that represents the input signal."); '158 patent at 1:42-46 (same).

[1] U.S. Patent No. 8,718,158.
[2] No claims of the '243 patent refer to the "phase characteristics" of carrier signals.

Further, despite not appearing as part of the claim language, the term "phase characteristics" is used exclusively throughout the '243 patent specification to describe the claimed invention. The specification notes, for instance, that "[t]he present invention features a system and method that scrambles the *phase characteristics* of the modulated carrier signals in a transmission signal." '243 patent at 2:34-36 (emphasis added). The specification highlights one embodiment in which input bit streams are modulated onto "carrier signals having the substantially scrambled *phase characteristic* [to] produce a transmission signal with a reduced peak-to-average power ratio (PAR)." *Id.* at 2:44-47 (emphasis added). In another embodiment, a phase scrambler is used to "combine[] the phase shift computed for each carrier signal with the *phase characteristic* of that carrier signal to substantially scramble the *phase characteristic* of the carrier signals." *Id.* at 2:63-66 (emphasis added). Figure 1 provides an additional embodiment "of a digital subscriber line communications system including a DMT (discrete multitone modulation) transceiver, in communication with a remote transceiver, having a phase scrambler *for substantially scrambling the phase characteristics* of carrier signals." *Id.* at 3:13-18 (emphasis added). Thus, in order to read the embodiments of the claims consistently with the claim language, the terms "phases" and "phase characteristics" must be given identical meanings.

Additionally, the Court finds that "phase characteristics" must be interpreted consistently between the '243 patent and the'158 patent. In fact, the two patents share a common specification, and each discloses an "invention [that] features a system and method that scrambles the phase characteristics of the modulated carrier signals in a transmission signal." *Id.* at 2:34-36; '158 patent at 2:36-38. Given these similarities, the same term, when used in both patents, should carry the same meaning. *See Cloud Farm Assocs. LP v. Volkswagen Grp. of Am.,*

Inc., 674 F. App'x 1000, 1006 (Fed. Cir. 2017) ("The same term should be construed consistently throughout the same patent and any related patents sharing a common specification.").

Because the Court also finds that the'243 patent uses "phases" and "phase characteristics" interchangeably, the Court agrees with TQ Delta that "phase characteristics" of carrier signals, as recited in the claims of the '158 Patent, and "phases" of carrier signals, as recited in the claims of the '243 Patent, are synonymous. *See O2 Micro*, 521 F.3d at 1562.

ii. Dr. Wicker's interpretation of "phases" is inconsistent with the Court's prior claim construction and Defendants' arguments during claim construction.

In its *Markman* Opinion, the Court recognized the parallels between the '158 and '243 patents and referred to the patents jointly as the "phase scrambling patents." D.I. 199 at 3-4. Thus, despite the '243 patent claims' exclusive use of the term "phases," the Court understood that the patent still concerned the "phase characteristics" of the carrier signals. In fact, in describing each patent's claimed invention, the Court found that the '243 patent, like the '158 patent, was "directed to a method for scrambling the *phase characteristics* of carrier signals in a multicarrier communications system." *Id.* at 4.

Defendants' own briefing reveals that they too interpreted "phases" and "phase characteristics" as synonymous terms. For instance, the parties requested that the Court construe the '158 patent's use of the term "scrambling the phase characteristics of the carrier signals," and the '243 patent's use of the term "phase scrambler." *Id.* at 6-7. However, neither party argued that the interpretation of either term required the Court to distinguish between "phases" and "phase characteristics." Rather, as the Court noted in its opinion, "[t]he parties' *only* dispute with respect to these two [disputed] claim terms [was] whether the carrier signals are modulated

before or after phase scrambling occurs." *Id.* (emphasis added). Critically, in proposing a construction for the term "scrambling the *phase characteristics* of the carrier signals," as used in the '158 patent, Defendants argued that the term should be construed to mean "adjusting *the phases* of the modulated carrier signals by pseudo-randomly varying amounts." D.I. 135 at 29 (emphasis added). In support of this interpretation, Defendants argued that "phases" and "phase characteristics" were interchangeable terms. *Id.* at n. 21 ("The terms 'phase' and 'phase characteristics' are used interchangeably. '158 patent at 1:41-47 [] ('the phase characteristic, or phase.').").

Given the above, the Court agrees with TQ Delta that Dr. Wicker's alternative opinion differentiating between "phase characteristics" of carrier signals, as recited in the claims of the '158 patent, and "phases" of carrier signals, as recited in the claims of the '243 patent, is inconsistent with each patent's specification and the Court's prior *Markman* rulings. D.I. 533 at 8-9. Thus, TQ Delta's Motion to Strike Dr. Wicker's Phases Opinion is GRANTED.[3]

3. Dr. Wicker Improperly Construes the Term "On."

In his expert report, Dr. Wicker's also opines that the '158 patent distinguishes between the term "on" and "onto." Wicker Report ¶¶ 399-401. According to Dr. Wicker, the claim element [1e] of the '158 patent "specifically requires modulating a bit that is '***on***' a carrier signal ('modulating at least one bit of the plurality of data bits on the carrier signal')." *Id.* at ¶ 400 (emphasis added). Dr. Wicker contends that this is "different from modulating a bit 'onto' a

[3] The Court recognizes that Dr. Wicker's report provides alternative opinions "to the extent that 'phases' and 'phase characteristics' are interpreted to have the same meaning." Wicker Report ¶ 411. This Order extends only to his opinions which require the terms "phases" of the '243 Patent and "phase characteristics" of the '158 Patent to have different meanings. *See, e.g., id.* at ¶ 412. Dr. Wicker's infringement opinions that rely on the terms receiving the same interpretation are not stricken.

carrier signal." *Id.* According to Dr. Wicker, the '158 patent "consistently uses 'onto' in describing modulation" that results in bits being placed "onto carrier signals." *Id.* However, by using the term "on," Dr. Wicker opines that claim limitation [1e] "requires modulation of a bit that is already 'on' the carrier signal." *Id.* at ¶ 401. Again, the Court finds that Dr. Wicker's opinion is inconsistent with the specification of the '158 patent.

The '158 patent discloses several variations of a system "that scrambles the phase characteristics of the modulated carrier signals in a transmission signal" before the transmission signal is sent from the receiver to a remote transceiver. '158 patent at 2:36-38. The goal of scrambling is "to provide a low PAR for the transmission signal" before it is sent to the remote transceiver. *Id.* at 2:28-30. Thus, as this Court previously found, the phase scrambler must scramble the phase characteristics before the transmission system is communicated to the remote transceiver. D.I. 199 at 7-8 ("Nothing in the claims or the descriptions of example embodiments supports Defendants' argument that the phase scrambling occurs after modulation."). For similar reasons, the modulation of the data bits must occur before the transmission signal is transferred to the remote transceiver. The patent, however, does not require that modulation of the data bits onto the carrier signals occur *before* the carrier signals are scrambled.

In fact, the '158 patent's specification describes several embodiments that allow modulation of the data bits to occur after the carrier signals are scrambled. *See* '158 patent at 2:46-49 ("In one embodiment, the input bit stream is modulated onto the carrier signals *having the substantially scrambled phase characteristic* to produce a transmission signal with a reduced peak-to-average power ratio (PAR)"); 2:62-3:5 ("In another aspect, the invention features a system comprising a phase scrambler that computes a phase shift for each carrier signal based on a value associated with that carrier signal. The phase scrambler also combines the phase shift

computed for each carrier signal with the phase characteristic of that carrier signal to substantially scramble the phase characteristics of the carrier signals. In one embodiment, a modulator, in communication with the phase scrambler, modulates bits of an input signal onto the carrier signals ***having the substantially scrambled phase characteristics*** to produce a transmission signal with a reduced PAR.") (emphasis added). As discussed below, Dr. Wicker's modulating data theory, if adopted, would necessarily read each of these embodiments out of the patent claims.

Of the thirty claims asserted in the '158 patent, only the independent claims (claim 1 and claim 15) include limitations regarding the modulation of data bits, and both independent claims assert "modulating **at least one bit** of . . . data bits ***on*** **the carrier signal**." In other words, neither claim discloses a system in which data bits are modulated "onto" a carrier signal. Therefore, if the term "on" requires, as Dr. Wicker contends, modulation of data bits already "on" the carrier signal, then the specification's description of embodiments that require modulation of bits "onto" a carrier signal would fall outside the scope of the two independent claims and therefore the claimed invention. As TQ Delta notes, such an interpretation, which would "exclude a preferred embodiment from the scope of the claim[,] is rarely, if ever, correct." D.I. 531 at 8 (citing *On–Line Techs., Inc. v. Bodenseewerk Perkin–Elmer GmbH*, 386 F.3d 1133, 1138 (Fed. Cir. 2004)). This case is no exception.

Defendants, like Dr. Wicker, contend that "the '158 [p]atent distinguishes modulating 'on' a carrier signal from 'onto' a carrier signal." D.I. 529 at 1. The Court disagrees. As the Court noted above, the patent claims only disclose systems for modulating data bits "on" a carrier signal, and the specification describes embodiments of the invention that require modulation of data bits "onto" carrier signals. Thus, the claim language and specification can

only be reconciled if "on" and "onto"—when used in the context of modulating data bits—are construed as interchangeable terms. While Dr. Wicker highlights one embodiment "[w]here the '158 [p]atent describes modulating 'on' a carrier signal . . . in [the] [] context of voltage modulation,"[4] Dr. Wicker identifies the *only* instance in which the specification, in discussing modulation, uses the term "on." In every other instance in which modulation is described by the specification, the patent discloses the modulation of bits "onto" the carrier signals. *See, e.g.*, '158 patent at 2:46-49; 3:1-5; 4:52-55.

Further, the example noted by Dr. Wicker relates to the specification's description of an embodiment of the patent that uses "predefined transmission signals" to avoid clipping of the transmission system, which is a system entirely distinguishable from the system claimed in [1e]. *See id.* at 8:36-44. The '158 patent explains that a predefined transmission signal is a substitute signal that is used only when a clipped transmission signal is detected. *Id.* The specification notes that the predefined signal "has a known and distinct sequence pattern so that it can be sent to the remote receiver in place of a clipped transmission signal and, once sent, can be "easily detected by the remote receiver" as a substitute signal. *Id.* at 8:44-53. Unlike the other transmission signals described by the patent, the predefined signal is one that "is not based on (i.e., independent of) the modulated input data stream." *Id.* at 8:47-49. A predefined signal with "all zeros" signal is one example of a predefined signal which has "zero volts," meaning no volts modulated onto the signal. *Id.* at 8:53-56.

Claim 1 of the '158 patent, on the other hand, discloses a system that requires "a method for scrambling the phase characteristics of the carrier signals." *Id.* at claim 1. Thus, the claimed

[4] Wicker Report ¶ 400.

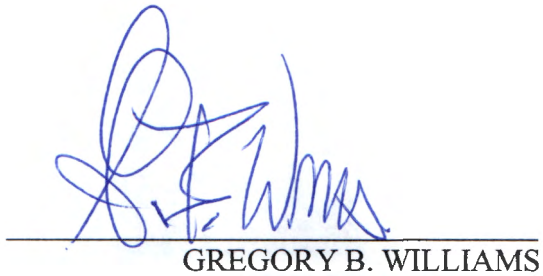
invention requires that a phase shift is computed for each carrier signal and that each signal's phase characteristics are scrambled. *Id.* The claimed invention also discloses a system that is based on the modulated input data stream. The claim explains that "each carrier signal has a phase characteristic associated with at least one bit of the plurality of data bits" and requires modulating these data bits before they are transmitted to the remote receiver. *Id.* Thus, claim 1 is unrelated to the "all zeros" predefined signal wherein "zero volts [are] modulated on all the carrier signals." *Id.* at 8:54-56. Because Dr. Wicker cannot identify any other instances where the '158 patent discusses modulation of data bits that are already "on" a carrier signal, the Court finds no evidence to support Defendants' claim that the '158 patent intended to draw a distinction between modulation "on" and "onto" a carrier signal. Rather, the Court finds that the terms "on" and "onto," when used to describe the modulation of data bits on/onto a carrier signal, are used synonymously.

Because Dr. Wicker's construction of the term "on" excludes preferred embodiments of the '158 patent and is inconsistent with the patent's specification, TQ Delta's Motion to Strike Dr. Wicker's modulating data theory is GRANTED.

III. CONCLUSION

For the foregoing reasons, this 14th day of March, **IT IS HEREBY ORDERED** as follows:

1. TQ Delta's Motion for Reconsideration (D.I. 531) is **GRANTED**;
2. TQ Delta's Motion to Strike Dr. Wicker's Phases Opinion (D.I. 507) is **GRANTED**; and
3. TQ Delta's Motion to Strike Dr. Wicker's Modulating Data Theory (D.I. 507) is **GRANTED**.



GREGORY B. WILLIAMS
U.S. DISTRICT JUDGE