IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

INTELLECTUAL VENTURES I, LLC and INTELLECTUAL VENTURES II, LLC,	)	
Plaintiffs,	)	
v.	)	Civ. No. 13-473-SLR
CANON INC., CANON USA, INC., AND CANON SOLUTIONS AMERICA, INC.,	)	
Defendants.	)	

MEMORANDUM ORDER

At Wilmington this 23rd day of January, 2015, having heard argument on, and having reviewed the papers submitted in connection with, the parties' proposed claim construction;

IT IS ORDERED that the disputed claim language of U.S. Patent Nos. 6,130,761 ("the '761 patent"), 7,817,914 ("the '914 patent"), 5,444,728 ("the '728 patent"), 7,315,406 ("the '406 patent"), 5,712,870 ("the '870 patent"), and 6,977,944 ("the '944 patent") shall be construed consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), as follows:

1. **"[M]onitoring a flow of current in said laser and in said bypass:"**[1] "Detecting a flow of current in said laser and a flow of current in said bypass." This construction is consistent with the claim language, where the act of "monitoring" is distinct from "provid[ing] a measure of current." ('728 patent, col. 18:45-46) To the

[1]Claim 17 of the '728 patent.

extent that the current monitored is the same as the current measured, there is nothing in the claim language that requires importing the limitation of measuring only a "sum" of the main current plus the bias current, as is done in one embodiment. (*Id.* at col. 2:60-65)

2. **"[M]ain circuit module capable of receiving a scanning instruction . . . converting the scanning instruction into scan control signals, passing the scan control signals to a connection cable as well as receiving a digital image data:"**[2] Not indefinite under 35 U.S.C. § 112, ¶ 2. Not subject to 35 U.S.C. § 112, ¶ 6. The claims and the specification of the '406 patent explain how the main circuit module receives scanning instructions and connects to the optical sensor circuit module through a connection cable. ('406 patent, cols. 2:20-22; 2:33-35; 2:37-44; 2:57-67; 3:39-45; 3:50-59; 4:10-23; claim 1; claim 26) The specification further describes the fabrication, location and various components of the main circuit module. ('406 patent, cols. 1:28-35; 2:27-29; 2:32-39; 3:41-43; 4:10-21) In the absence of any "means for" language, such a description is sufficient to avoid application of 35 U.S.C. § 112, ¶ 6. *See Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320-21 (Fed. Cir. 2004) (holding the terms "circuit" and "circuitry" along with "a recitation of the respective circuit's operation in sufficient detail to suggest structure to persons of ordinary skill in the art" are "not means-plus function limitations subject to 35 U.S.C. § 112 ¶ 6"). The description provided by the claims and specification is also sufficient to "inform, with reasonable certainty, those skilled in the art about the scope of the invention," and the

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[2]Claims 1 and 26 of the '406 patent.

term, therefore, is not indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

3. **"[S]can control signals:"**[3] Indefinite under 35 U.S.C. § 112, ¶ 2. The claims and the specification describe "scan control signals" as converted "scanning instructions" that "pass along the connection cable" where they are then converted into "timing control signals." (*See* '406 patent, cols. 2:13-16; 2:20-22; 2:32-34; 3:48-62, claim 1) The specification does not provide further guidance as to the type or format of the signals or what the signals ultimately control. The term, read in light of the specification, "fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 134 S. Ct. at 2124. The term "scan control signals," therefore, is indefinite under 35 U.S.C. § 112, ¶ 2.

4. **"[O]ptical sensor circuit module ... capable of receiving [the] scan control signals . . . and converting the scan control signals to timing control signals:"**[4] Not indefinite under 35 U.S.C. § 112, ¶ 2. Not subject to 35 U.S.C. § 112, ¶ 6. Claim 1 of the '406 patent explains that the optical sensor circuit module "is connected to the main circuit module through the connection cable." The specification describes how the optical sensor circuit module "receives the scan control signals and converts the scan control signal into timing control signals." ('406 patent, col. 2:19-22; *see also* 3:37-40) The specification further describes the fabrication, attachments and various internal components of the optical sensor circuit module. (*Id.* at col. 1:28-35;

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[3]Claims 1, 26 and 30 of the '406 patent.

[4]Claims 1, 26 and 30 of the '406 patent.

1:36-43; 2:29-32; 2:41-51; 3:43-47; 3:58-4:2; fig. 2) In the absence of any "means for" language, such a description is sufficient to avoid application of 35 U.S.C. § 112, ¶ 6. *See Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320-21 (Fed. Cir. 2004) (holding the terms "circuit" and "circuitry" along with "a recitation of the respective circuit's operation in sufficient detail to suggest structure to persons of ordinary skill in the art" are "not means-plus function limitations subject to 35 U.S.C. § 112 ¶ 6"). The description provided by the claims and specification is also sufficient to "inform, with reasonable certainty, those skilled in the art about the scope of the invention," and the term, therefore, is not indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

5. **"[T]iming control signals:"**[5] Indefinite under 35 U.S.C. § 112, ¶ 2. In the context of the claims and the specification, the optical sensor circuit module converts scan control signals received from the main circuit module into timing control signals. ('406 patent, col. 2:13-22) These timing control signals "extract[] an analog signal from the optical sensor." (*Id.* at col. 3:53-67) As with scan control signals, the specification does not provide guidance as to the type or format of the timing control signals or what they ultimately control. As such, the term, read in light of the specification, "fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 134 S. Ct. at 2124. The term "timing control signals," therefore, is indefinite under 35 U.S.C. § 112, ¶ 2.

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[5]Claims 1, 5, 26, 29, 30 and 31 of the '406 patent.

6. **"[C]onverting:"**[6] Not indefinite under 35 U.S.C. § 112, ¶ 2. As recited in the claims, the main circuit module is capable of "converting" the scanning instructions into scan control signals and the optical sensor circuit module is capable of "converting" the scan control signals to timing control signals." ('406 patent, claims 1, 26, 30) Consistent with the claims, the specification uses "converting" to describe "changing from one form to another." (*Id.* at cols. 2:13-15; 2:20-22; 2:32-34) As read in the context of the claims and specification, the term "converting" is not indefinite under 35 U.S.C. § 112, ¶ 2 because it "inform[s], with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus,* 134 S. Ct. at 2124 (2014).

7. **"[O]ptical sensor circuit module . . . capable of receiving scan control signals . . . converting the scan control signals to timing control signals . . . extraction of an analog image signal . . . and conversion of the analog image signal into digital image data:"**[7] Not indefinite under 35 U.S.C. § 112, ¶ 2. Not subject to 35 U.S.C. § 112, ¶ 6. Claim 30 of '406 patent explains that the optical sensor circuit module "is connected to the main circuit module through the connection cable." The specification describes how the optical sensor circuit module "receives the scan control signals and converts the scan control signal into timing control signals." ('406 patent, col. 2:19-22; *see also* 3:37-40) The specification further describes the fabrication, attachments and various internal components of the optical sensor circuit module. (*Id.* at cols. 1:28-35; 1:36-43; 2:29-32; 2:41-51; 3:43-47; 3:58-4:2; fig. 2) In

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[6]Claims 1, 26 and 30 of the '406 patent.

[7]Claim 30 of the '406 patent.

the absence of any "means for" language, such a description is sufficient to avoid application of 35 U.S.C. § 112, ¶ 6. *See Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320-21 (Fed. Cir. 2004) (holding the terms "circuit" and "circuitry" along with "a recitation of the respective circuit's operation in sufficient detail to suggest structure to persons of ordinary skill in the art" are "not means-plus function limitations subject to 35 U.S.C. § 112, ¶ 6"). The description provided by the claims and specification is also sufficient to "inform, with reasonable certainty, those skilled in the art about the scope of the invention," and the term, therefore, is not indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

8. **"[T]iming generator . . . capable of generating the timing control signals that control a generation of the analog image signal and a conversion of the analog image signal into the digital image data:"**[8] Not indefinite under 35 U.S.C. § 112, ¶ 2. Not subject to 35 U.S.C. § 112, ¶ 6. Claims 5, 29 and 31 of the '406 patent specify that the timing generator is capable of outputting signals and operates as an electrical circuit that is coupled to the optical sensor and the analog/digital converter. The specification depicts the timing generator as a structural component of the optical sensor circuit module capable of producing timing control signals needed to extract the analog image signal from the optical sensor. ('406 patent, cols. 2:29-32; 2:46-51; 3:43-47; 3:58-62) In the absence of any "means for" language, this description is sufficient to avoid application of 35 U.S.C. § 112, ¶ 6. *See Inventio AG v. ThyssenKrupp Elevator Americas Corp., 649 F.3d 1350, 1358* (Fed. Cir. 2011) (finding that

[8]Claims 5, 29 and 31 of the '406 patent.

"modernizing device" is not subject to § 112, ¶ 6 as it "functions as an electrical circuit" and the operation of the circuit is sufficiently described in the claims). The description provided by the claims and specification is also sufficient to "inform, with reasonable certainty, those skilled in the art about the scope of the invention," and the term, therefore, is not indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

9. **"[S]electing an automatic image trigger condition:"**[9] "A user of the image capture device selects the automatic image trigger condition." This construction is most consistent with the architecture of independent method claim 1, which separates "selecting an automatic image trigger condition" from "entering a threshold level corresponding to the automatic image trigger conditions." ('914 patent, claim 1) Defendants' proposal to import the language of "when a corresponding threshold level is reached" unnecessarily collapses the steps of "selecting" and "entering."

10. **"[E]ntering a threshold level:"**[10] "A threshold level entered by user." The specification provides examples of how image capture is initiated when "some measured variable exceeds a given threshold value" ('941 patent, col. 9:47-48) or when a "sensed signal exceeds a given threshold value." (*Id.* at col. 9:38-40) For example, the specification states that the device may be equipped with an audio sensor, and a threshold level of noise is set so that noise above the predetermined threshold will trigger image capture. (*Id.* at col. 5:42-48) However, these examples merely inform the

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[9]Claim 1 of the '914 patent.

[10]Claim 1 of the '914 patent.

range of thresholds a user may enter and do not limit the claim scope.

11. **"[A]utomatically operating the image capture device to capture at least one digital image upon the automatic detection of the automatic image trigger condition meeting the threshold level:"**[11] "Upon the automatic detection of the automatic trigger condition meeting the threshold level, the image capture device captures, without further intervention by a user, at least one digital image." Such construction does not preclude incidental involvement by the user in operating the device between the "entering a threshold level" and "automatically operating" steps, so long as the device itself operates automatically to capture an image when the threshold level is met. ('941 patent, col. 7:7-12 (("the digital capture device is picked up by the user" or "the user contacts the image capture button))

12. **"[D]etermining a driving signal, a triggering signal, and a number of rotation steps according to a predetermined resolution, wherein a period TG of the triggering signal equals a period TM of the driving signal multiplied by the number of rotation steps N within the period TG:"**[12] "Determining a period (TM) of a driving signal, a period (TG) of a triggering signal wherein TG is not less than TM, and a number of rotation steps (N) within the period TG, according to a predetermined resolution, and wherein the relationship between the parameters follows TG=TM*N." This construction is consistent with the specification, which states "[a] frequency of the triggering signal **can** be obtained according to the predetermined resolution and the

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[11]Claim 1 of the '914 patent.

[12]Claim 1 of the '761 patent.

period of the driving signal . . . ". ('761 patent, col. 4:10-12) (emphasis added) The fact that one embodiment requires calculating one parameter using the other two parameters does not limit the claim scope. (*See id.* at col. 5:1-6)

13. **"[O]btaining a number of rotation steps for a motor and a period of a driving signal by checking a table and referring to a predetermined resolution, and obtaining a period of a triggering signal by means of the period of the driving signal and the number of rotation steps for the motor, wherein the period TG of the triggering signal equals the period of the driving signal TM multiplied by the number of rotation steps for the motor N within the period TG:"**[13] "Obtaining a number of rotation steps for a motor (N) and a period of a driving signal (TM) from a table referring to a predetermined resolution, and obtaining the period (TG) of a triggering signal wherein TG is not less than TM, wherein TG is based on TM and N, and wherein the relationship between the parameters follows TG=TM*N." For the reasons recited in paragraph 12, *supra*, claim 1 of the '761 patent does not require a calculation so long as the relationship between the parameters follows the claimed relationship. However, nothing in the specification supports the practice of manipulating the values of the rotation steps and the driving signal period after obtaining the values from a chart. ('761 patent, col. 6:49-53) ("[i]n practice, the required resolutions and the corresponding numbers of rotation steps of the driving motor are listed in a table such as Table 2 for checking the needed number of rotation steps of the driving motor before a scanning process")

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[13]Claims 6 and 10 of the '761 patent.

14. **"[O]btaining a number of rotation steps for a motor and a period of a triggering signal by checking a table and referring to a predetermined resolution, and obtaining a period of a driving signal by means of the period of the triggering signal and the number of rotation steps for the motor, wherein the period of the driving signal TM equals the period TG of the triggering signal divided by the number of rotation steps for the motor N within the period TG:"**[14] "Obtaining a number of rotation steps for a motor N within a period TG and a period of a driving signal TM from a table referring to a predetermined resolution, and obtaining the period TG of a triggering signal wherein TG is not less than TM, wherein TG is based on TM and N, and wherein the relationship between the parameters follows TG=TM*N." This construction is adopted for the same reasons outlined in paragraph 13, *supra.*

15. **"[N]umber of rotations steps [for the motor] N:"**[15] "Number of rotation steps [for the motor] N, where N is an integer." This construction is supported by the specification, which states that "[n]ormally, the period of the triggering signal is an integral multiple of the period of the driving signal." ('761 patent, col. 5:26-27) The specification does not contemplate an "abnormal" situation where N could be a non-integer, indeed, in every embodiment in the specification and file history, N is an integer. (*See id.* at col. 5:50-64; figs. 1B and 2; D.I. 220, ex. J32 at A2030, A2043)

16. **"[S]ingle device:"**[16] "A single packaged device or module that may contain

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[14]Claims 8 and 12 of the '761 patent.

[15]Claims 1, 6, 8, 10 and 12 of the '761 patent.

[16]Claims 1, 3, 10 and 17-19 of the '870 patent.

one or more integrated circuit chips." This construction is consistent with the doctrine of claim differentiation as dependant claims 8 and 19 further require that "the single device" be a "single monolithic device." ('870 patent, claims 8, 19) Although the specification lauds the benefits of using a single chip (*Id.* at cols. 8:66-9:4; 6:40-63; 9:29-33), nothing in the language of claim 1 requires that the device be limited to a single chip.

17. **"[T]he demodulated data signal:"**[17] "Demodulated data portion." Claim 1 of the '870 patent describes how the "header of the digital signal" and the "data portion of [the digital signal]" are demodulated separately using different demodulation techniques. Next, the "demodulated data signal" is provided to the media access control layer. Interpreting the "demodulated data signal" to be the demodulated "data portion" of the digital signal is most consistent with the sequence of events as claimed.

18. **"[S]pread spectrum:"**[18] No construction needed. The term spread spectrum describes a large family of communication techniques well known to those of skill in the art. Any attempt to craft a single construction, for example, by describing the transmitted signal as being "substantially wider" than the original data rate, adds unnecessary uncertainty.

19. **"[A]nalog receiver:"**[19] "Analog circuitry that receives a transmitted radio frequency analog signal and outputs a corresponding analog signal." This construction

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[17]Claims 1, 10 and 17 of the '870 patent.

[18]Claims 1, 10 and 17 of the '870 patent.

[19]Claim 10 and 17 of the '870 patent.

is consistent with the claims, which recite an "analog receiver for receiving a spread spectrum modulated signal" followed by an "analog-to-digital converter operable on said modulated signal." ('870 patent, claim 10) As suggested by the name "analog-to-digital converter" and as described in the specification, the "analog signals [are converted to] digital signals at A/D converters." (*Id.* at col. 5:24-26) It follows that the analog receiver outputs an analog signal, which is then converted to a digital signal by the analog-to-digital converter.

20. **"[T]imer for transitioning between the BPSK demodulation and the QPSK demodulation:"**[20] "Timer hardware and/or software for transitioning between BPSK demodulation and QPSK demodulation." This is consistent with the specification, which indicates that the timer operates in concert with "the signaling field," which "is used to switch the receiver modulator/demodulator between BPSK and QPSK at the correct time." ('870 patent, col. 9:59-64)

21. **"[D]irect sequence spread spectrum signals:"**[21] ("DSSS") The parties agree that the construction is: "a spread spectrum communication, in which the signal to be transmitted is modulated with a pseudorandom noise ("PN") code." This construction is provided to aid the factfinder in understanding the term, but is not limiting because the term only appears in the preamble and merely provides context for the improvements recited in the body of the claim. *See Textron Innovations Inc. v. Am. Eurocopter Corp.*, 498 Fed. App'x 23, 28-29 (Fed. Cir. 2012).

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[20]Claims 10 and 17 of the '870 patent.

[21]Claim 10 of the '870 patent.

22. **"[M]eans for receiving an analog signal having modulated thereon in a spread spectrum format a message having a header portion and a data portion:"**[22] The parties do not dispute that the corresponding function is: "Receiving an analog signal having modulated thereon in a spread spectrum format a message having a header portion and a data portion." The corresponding structure is: "Antennae 20 and/or 22 in Fig. 2 and description of same in the specification, e.g. 4:59-64, 5:44-54." The specification teaches that "a transceiver using one aspect of the present invention may include dual antennae." ('870 patent, col. 4:59-64; *see also* 5:44-54 ("In operation, a signal received at the antennae 20, 22 may be passed through . . .)) In light of the disclosures in the specification, this term is not indefinite under 35 U.S.C. § 112, ¶ 2, as it informs those skilled in the art about the scope of the invention with reasonable certainty.

23. **"[M]eans for converting said analog signal into a digital signal:"**[23] The parties do not dispute that the corresponding function is: "Converting said analog signal into a digital signal." The corresponding structure is: "A/D converter 54 and/or 56 and description of same in the specification at 6:63-67." Although the specification states that "the baseband processor receives the I and Q signals from the modulator/demodulator 42 via the A/D **converters**" ('870 patent, col. 6:63-67) (emphasis added), there is no indication in the claims or the specification that both converters are necessary to perform the function. *See Wegner Mfg., Inc. v. Coating*

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[22]Claim 1 of the '870 patent.

[23]Claim 1 of the '870 patent.

Mach. Sys., Inc., 239 F.3d 1225, 1233 (Fed. Cir. 2001) ("Under § 112, ¶ 6, a court may not import functional limitations that are not recited in the claim, or structural limitations from the written description that are unnecessary to perform the claimed function.").

24. **"[M]eans for providing the demodulated data signal to a media access control (MAC) layer:"**[24] The parties do not dispute that the corresponding function is: "Providing the demodulated data signal to a media access control (MAC) layer." The corresponding structure is: "Element 62 of Fig. 2 and description of same in the specification at 5:28-34." This construction is consistent with the specification, which states that "[t]he despread signal may be demodulated by a demodulator to provide a digital data signal which may be passed to an application system through an interface circuit 62." ('870 patent, col. 5:28-34)

25. **"[M]eans for demodulating the header of the digital signal using digital binary phase shift keyed (BPSK) demodulation and for demodulating the data portion of the same message using quarterary phrase shift keyed demodulation (QPSK):"**[25] The parties do not dispute that the corresponding function is: "Demodulating the header of the digital signal using digital binary phrase shift keyed (BPSK) demodulation and for demodulating the data portion of the same message using quarternary phrase shift keyed modulation (QPSK)." The corresponding structure is: "PSK demodulator 100 in figure 3 and description of same in the specification, e.g., 8:3-13; and/or element 60 of figure 2 and description of same in the specification, e.g.,

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[24]Claim 1 of the '870 patent.

[25]Claim 1 of the '870 patent.

5:28-30." This construction is consistent with the specification, which links figure 2 and figure 3 by stating, "FIG. 3 is a functional block diagram of a baseband processor which may be used in the transceiver of FIG. 2." ('870 patent, col. 4:36-37) With reference to figure 3, the specification states "the polar signal produced by the cartesian to polar converter 88 is provided to a PSK demodulator 100 . . . the data of the received signal may be in either BPSK or QPSK format." (*Id.* at col. 8:3-10) Figure 2 is not limited to non-differential demodulation techniques given that element 60 of figure 2 is labeled "Dpsk Demod." "DPSK" is defined for the first time in the discussion of figure 3 as "differential phase shift keyed signals," and there is no indication that the author intended a different definition to apply to "DPSK" as it is used in figure 2. (*Id.* at col. 6:50-54)

26. **"[M]eans contained on said single device for timing a transition from BPSK mo[d]ulation [sic] to QPSK modulation:"**[26] The parties do not dispute that the corresponding function is: "Timing a transition from BPSK modulation to QPSK modulation." The corresponding structure is: "Processor interface 114 in fig. 3 and description of same in the specification." When discussing the "baseband processor of FIG. 3," the specification states that "the processor may receive data in which the header is in BPSK but the data is in QPSK." ('870 patent, col. 9:19-21; *see also id.* at col. 9:60-63 ("the signaling field, when detected, is used to switch the receiver modulator/demodulator between BPSK and QPSK at the correct time with respect to the data portion of the packet.")) Moreover, figure 3 is linked to figure 2 in that "FIG. 3

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[26]Claim 1 of the '870 patent.

is a functional block diagram of a baseband processor which may be used in the transceiver of FIG. 2." (*Id.* at col. 4:36-37) In light of the disclosures in the specification, this term is not indefinite under 35 U.S.C. § 112, ¶ 2 as it informs those skilled in the art about the scope of the invention with reasonable certainty.

27. **"[M]eans for adjusting said means for timing to account for headers of variable length:"**[27] The parties do not dispute that the corresponding function is: "Timing a transition from BPSK modulation to QPSK modulation." The corresponding structure is: "Processor interface 114 in figure 3 and description of same in the specification." In describing the operation of the processor, the specification states "the timing of switching the receiver from one signaling format to another is time critical . . . the number of fields in the header may be user selectable." ('870 patent, col. 9:18-24; *see also* 9:45-63) In light of these disclosures, this term is not indefinite under 35 U.S.C. § 112, ¶ 2 as it informs those skilled in the art about the scope of the invention with reasonable certainty.

28. **"[D]ata frame:"**[28] "Data encapsulated into a discrete structure for communication over a network as an independent unit." Not invalid under 35 U.S.C. § 112 ¶¶ 1 and/or 2 as indefinite and/or lacking written description. The specification explains that data "of indefinite size is not necessarily transmitted across shared communications network 401 intact, but rather might be transmitted in small pieces. Each of these small pieces is encapsulated into a data structure called a 'data frame.'"

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[27]Claim 2 of the '870 patent.

[28]Claims 1, 7 and 11 of the '944 patent.

('944 patent, col. 4:40-47) The '944 specification distinguishes between null frames and data frames. (*Id.* at col. 10:44-48 ("It will be clear to those skilled in the art how to format, encode, transmit, receive, and decode CTS frame . . . null frame . . . data frames . . ."); *see also* 12:47-50 ("a null frame or similar non-data frame message")) Although the '944 patent states that it incorporates by reference U.S. Provisional Patent Application No. 60/347,412 ("the '412 application"), it does not purport to incorporate potentially conflicting information on data frames contained in the '412 application, nor does it indicate where the material regarding data frames is located in the '412 application. *See Zenon Envtl., Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378 (Fed. Cir. 2007) ("To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.").

29. **"[T]ransmitting said first signal in accordance with a first modulation scheme on said shared-communications medium after said second signal:"**[29] Not invalid under 35 U.S.C. § 112, ¶ 2 as indefinite. The claims distinguish between signals one, two and three, specifying that the "second signal conveys a frame indicating clear to send," the first signal conveys "at least one data frame" addressed to a different station than the clear to send frame, and the third signal is transmitted after the second signal "with said second modulation scheme." ('944 patent, claims 7 and 19) Unlike the terms "scan control signals" and "timing control signals" in the '406 patent, the '944 patent specification supports the claimed signaling scheme with additional description

[29]Claim 7 of the '944 patent.

including signal format, the specific information conveyed by the signals, and transmission timing. (*Id.* at cols. 3:47-61; 12:28-68)

30. **"[T]ransmitting said third signal in accordance with said second modulation scheme on said shared-communications medium after said first signal:"**[30] Not invalid under 35 U.S.C. § 112, ¶ 2 as indefinite for the reasons recited, *supra*, in paragraph 29.

31. The court has provided a construction in quotes for the claim limitations at issue. The parties are expected to present the claim construction to the jury consistently with any explanation or clarification herein provided by the court, even if such language is not included within the quotes.

United States District Judge

[30]Claim 19 of the '944 patent.