IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LAMBDA OPTICAL SOLUTIONS, LLC, Plaintiff, v. ALCATEL-LUCENT USA INC. and ALCATEL-LUCENT HOLDINGS INC., Defendants.	)	Civil Action No. 10-487-RGA-CJB
ALCATEL-LUCENT USA INC. and ALCATEL-LUCENT HOLDINGS INC., Counter-Claimants, v. LAMBDA OPTICAL SOLUTIONS, LLC, LAMBDA OPTICAL SYSTEMS CORP., and ANASTASIOS TZATHAS, Counter-Defendants.	)	

REPORT AND RECOMMENDATION

In this patent case filed by Plaintiff Lambda Optical Solutions, LLC ("Lambda" or "Plaintiff") against Defendants Alcatel-Lucent USA Inc. and Alcatel-Lucent Holdings Inc. (collectively, "Alcatel" or "Defendants"), Plaintiff alleges infringement of U.S. Patent No. 6,973,229 ("the '229 patent"). Alcatel timely answered Plaintiff's Complaint, and asserted counterclaims against Lambda, Lambda Optical Systems Corporation ("LOS"), and Anastasios Tzathas (collectively, "Counter-Defendants"), one of the named inventors of the '229 patent. Presently before the Court is Defendants' Motion for Summary Judgment of Non-Infringement (the "Motion"). (D.I. 366) For the reasons set out below, the Court recommends that the Motion be **GRANTED-IN-PART**.

I. BACKGROUND

A. The Parties

Lambda is a Delaware limited liability company with its principal place of business in Newport Beach, California. (D.I. 1 at ¶ 1) Defendants are Delaware corporations, with their principal places of business in New Jersey and Texas, respectively. (D.I. 74 at 9 at ¶¶ 1, 2) Counter-Defendant LOS is a Delaware corporation with its principal place of business in Reston, Virginia. (*Id.* at ¶ 5) Counter-Defendant Mr. Tzathas is an individual residing in New Market, Maryland. (*Id.* at 10 at ¶ 6)

B. The '229 Patent

The '229 patent is entitled "Node Architecture for Modularized and Reconfigurable Optical Networks, and Methods and Apparatus Therefor," and was issued on December 6, 2005. (D.I. 178, ex. B)[1] The '229 patent lists three inventors: Mr. Tzathas, Moon W. Kim and Abdella Battou. (*Id.*) Counter-Defendant LOS is the sole assignee of the '229 patent, and Plaintiff is its exclusive licensee. (D.I. 1 at ¶¶ 32, 33) The '229 patent is based on U.S. Application No. 09/795,950, which was filed on February 28, 2001. The '229 patent contains thirty claims, four of which are independent (i.e., claims 1, 25, 26 and 27), and forty-nine figures.

The '229 patent relates to the field of optical networking, which involves transmitting voice, Internet traffic, and other digital data over fiber-optic cables. Systems that operate in this field convert electrical signals from one endpoint into optical signals (or light pulses) for transmission along fiber-optic cables. After transmission, the light pulses are converted back to

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[1] The '229 patent appears several times on the docket, including as an exhibit to the parties' Joint Claim Construction Chart. (D.I. 178, ex. B) Further citations will simply be to the "'229 patent."

electrical signals at another endpoint, so that they can be received by a network user.

Optical signals are often physically combined, or "multiplexed," for fiber-optic transmission over a single, high-speed "long-haul" fiber—a fiber cable that can transmit those signals over long distances. In wavelength division multiplexing ("WDM"), a fiber is shared by dividing the spectrum of light (or "wavelengths" of light). These "wavelength divisions" must be sufficiently spaced apart to prevent the multiple wavelengths from interfering with each other. The International Telecommunications Union ("ITU") has adopted standard wavelength spacing that should be used for such multiplexing, which is reflected in the "ITU grid." (*See* '229 patent, col. 18:9–11 ("The ITU grid specifies the minimum spacing and the actual wavelengths of the individual wavelengths in a WDM system.")) A wavelength that conforms to the ITU grid is considered "compliant." (*See, e.g.*, *id.*, col. 5:63–64)

The '229 patent is directed to one aspect of optical networking: an optical transport switching system. In both of the asserted independent claims (i.e., claims 1 and 25) of the '229 patent, the claimed optical transport switching system has five subsystems, as highlighted below in claim 1:

> An optical transport switching system for use in an optical network, comprising:
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> an *optical access ingress subsystem* which is adapted to receive an optical signal associated with an access network;
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> an *optical access egress subsystem*;
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> a *transport ingress subsystem*;
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> a *transport egress subsystem*;
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> and an *optical switch subsystem* which is adapted to ingress the optical signal into the optical network by optically coupling the

> optical access ingress subsystem to the transport egress subsystem and which is adapted to selectively provide optical coupling between the transport ingress subsystem and at least one of (1) the optical access egress subsystem, and (2) the transport egress subsystem.

('229 patent, col. 54:22–37 (emphasis added)) Asserted independent claim 25 closely tracks the language of claim 1, except that instead of focusing on the two ingress subsystems, it has a description of the two egress subsystems:

> An optical transport switching system for use in an optical network, comprising:
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> an *optical access ingress subsystem*;
>
> an *optical access egress subsystem* which is adapted to direct the optical signal toward an access network;
>
> a *transport ingress subsystem*;
>
> a *transport egress subsystem*;
>
> and the *optical switch subsystem* is adapted to egress an optical signal from the optical network by optically coupling the optical signal from the transport ingress subsystem to the optical access egress subsystem and is adapted to selectively provide optical coupling between the transport egress subsystem and at least one of (1) the optical access ingress subsystem and (2) the transport ingress subsystem.

(*Id.*, col. 56:28–42 (emphasis added))

C. Procedural Posture

Plaintiff's Complaint, which was filed on June 4, 2010, originally alleged infringement against 20 Defendants (D.I. 1); other than Alcatel, all of the other originally named Defendants have been dismissed by stipulation. On January 24, 2011, Alcatel timely answered Plaintiff's Complaint, and asserted counterclaims against Counter-Defendants. (D.I. 74) On March 28,

2012, this case was referred by Judge Richard G. Andrews for hearing and resolving all pretrial matters, up to and including the resolution of case-dispositive motions. After a hearing, (D.I. 215), the Court issued a Report and Recommendation on claim construction on August 3, 2012, (D.I. 234). Judge Andrews overruled objections to that Report and Recommendation on April 11, 2013. (D.I. 325) Briefing on the pending Motion was completed on January 8, 2014, and the Court held oral argument on the Motion (and other pending motions) on March 5, 2014. (D.I. 436, hereinafter "Tr.")

II. STANDARD OF REVIEW

A grant of summary judgment is appropriate where "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). The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *See Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 585 n.10 (1986). If the moving party meets this burden, the nonmovant must then "come forward with specific facts showing that there is a *genuine issue for trial*." *Id.* at 587 (emphasis in original) (internal quotation marks omitted). If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). During this process, the Court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

However, in order to defeat a motion for summary judgment, the nonmoving party must "do more than simply show that there is some metaphysical doubt as to the material facts."

Matsushita, 475 U.S. at 586-87; *see also Podobnik v. U.S. Postal Serv.*, 409 F.3d 584, 594 (3d Cir. 2005) (party opposing summary judgment "must present more than just bare assertions, conclusory allegations or suspicions to show the existence of a genuine issue") (internal quotation marks and citation omitted). The "mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986) (emphasis in original). Facts that could alter the outcome are "material," and a factual dispute is genuine only where "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Id.* at 248. "If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." *Id.* at 249-50 (internal citations omitted). A party asserting that a fact cannot be—or, alternatively, is—genuinely disputed must support the assertion either by citing to "particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for purposes of the motion only), admissions, interrogatory answers, or other materials"; or by "showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact." Fed. R. Civ. P. 56(c)(1)(A) & (B).

III. DISCUSSION

Lambda accuses three Alcatel products of infringement, two of which come in two different configurations. Thus, it can be said that there are five accused products, which are as follows: the 1625 LambdaXtreme ("LX"), 1696 ROADM "Blocker" Variant, the 1696 ROADM "WSS" Variant, the 1830 Photonic Service Switch ("PSS") "WR" Variant, and the 1830 PSS

"CWR" Variant (collectively, the "Accused Products"). (D.I. 393 at 2, 12-19) With its Motion, Alcatel argues that none of these Accused Products infringe the '229 patent, either directly or under the doctrine of equivalents. (D.I. 367 at 1-2) In doing so, Alcatel focuses solely on the two independent claims asserted by Lambda—claims 1 and 25—and argues that because there is no infringement under these claims, there cannot be infringement of the other, dependent asserted claims. (*Id.* at 3)

The parties' disputes center on the "optical switch subsystem" of claims 1 and 25. (*Id.* at 1-2) These claims require that the "optical switch subsystem" be adapted to "optically coupl[e]" and "selectively provide optical coupling." (*See* '229 patent, cols. 54:30-37, 56:35-42) Alcatel's argument that none of the Accused Products infringe the '229 patent relates to two disputed issues regarding construction of these terms—disputes that were not raised prior to the Court's earlier claim construction rulings. First, Alcatel argues that "optical switch subsystem" and "switch fabric" are interchangeable terms. (*See* D.I. 413 at 7-8) From there, Alcatel asserts that because "[t]he plain language of claims 1 and 25 makes clear that the 'optical switch subsystem' must perform the required optical coupling between subsystems[,]" this means that where anything other than the "switch fabric" performs the optical coupling, such a use is not infringing. (*See* D.I. 367 at 16) Second, Alcatel argues that there is no infringement where the "selectively provide optical coupling" requirement is met only through a human moving fiber-optic cables (e.g., "through human actors plugging and unplugging patch cords"). (*Id.* at 10-11) That is, Alcatel argues that the "optical switch subsystem," not a human being, must "selectively provide optical coupling." (*See id.*)

Before addressing the claim construction disputes set forth by the parties, some

background on the claims and the Court's earlier claim construction rulings is helpful. In both of the asserted independent claims of the '229 patent, the claimed optical transport switching system has five subsystems. The focus here is on the fifth of these five subsystems, the optical switch subsystem. As was previously noted, in claim 1, the optical switch subsystem is described as follows:

> An optical transport switching system for use in an optical network, comprising:
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> . . . an *optical switch subsystem* which is adapted to ingress the optical signal into the optical network by optically coupling the optical access ingress subsystem to the transport egress subsystem and which is adapted to selectively provide optical coupling between the transport ingress subsystem and at least one of (1) the optical access egress subsystem, and (2) the transport egress subsystem.

('229 patent, col. 54:22–37 (emphasis added)) Asserted independent claim 25 closely tracks the language of claim 1, but is adapted to "egress" an optical signal, and the "coupling" involves different subsystems:

> An optical transport switching system for use in an optical network, comprising:
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> . . . the *optical switch subsystem* is adapted to egress an optical signal from the optical network by optically coupling the optical signal from the transport ingress subsystem to the optical access egress subsystem and is adapted to selectively provide optical coupling between the transport egress subsystem and at least one of (1) the optical access ingress subsystem and (2) the transport ingress subsystem.

(*Id.*, col. 56:28–42 (emphasis added)) In its Report and Recommendation on claim construction, the Court addressed an issue relating to the second portion of this "optical switch subsystem" limitation, that is, what it means to be "adapted to selectively provide optical coupling" with

respect to these claims. (D.I. 234 at 34-42) The Court framed the issue as follows:

> [W]hen the claims refer to "selectively provid[ing]" optical coupling between one subsystem and "at least one of" two other subsystems, does that require a switch that is capable of making all of the enumerated connections, or would a switch that can make only one of those connections fall within the scope of the claim? . . . In other words, would a system that is capable of providing optical coupling *only* between the TP [transport] ingress subsystem and the OA [optical access] egress subsystem, for example, fall within the scope of claim 1?

(*Id.* at 35)

The Court ultimately concluded that the meaning of the phrase "at least one of" in both of those claims refers to a subsystem that is "capable of making optical connections (in the case of claim 1) between the TP ingress and (1) the OA egress; and (2) the TP egress; or (3) both." (*Id.* at 39) Accordingly, the Court construed the phrase "adapted to selectively provide optical coupling between the transport ingress subsystem and at least one of (1) the optical access egress subsystem, and (2) the transport egress subsystem" in claim 1 to mean "capable of switching optical signals from the transport ingress subsystem to (1) the optical access egress subsystem and to (2) the transport egress subsystem." (*Id.* at 42 (internal quotation marks omitted)) Similarly, it construed the phrase "adapted to selectively provide optical coupling between the transport egress subsystem and at least one of (1) the optical access ingress subsystem and (2) the transport ingress subsystem" in claim 25 to mean "capable of switching optical signals to the transport egress subsystem from (1) the optical access ingress subsystem, and from (2) the transport ingress subsystem." (*Id.* (internal quotation marks omitted)) Lambda filed objections regarding the Court's decision on this issue, (*see* D.I. at 241 at 7-10); Judge Andrews overruled those objections, and the constructions were adopted in their entirety, (D.I. 324 at 6-7).

A. The Parties' Claim Construction Disputes

1. Whether the "optical switch subsystem" is the same thing as the "switch fabric"

The first claim construction issue raised by the parties is whether the "optical switch subsystem" is the same thing as the "switch fabric." The claims frequently use the term "optical switch subsystem," but never the term "switch fabric." (*See, e.g.*, '229 patent, col. 54:30-45)[2] Conversely, the specification uses the term "optical switch subsystem" only twice (in a way that simply mirrors the language of claims 1 or 25), (*see id.*, col. 1:52-62), but frequently uses the term "switch fabric," (*see, e.g., id.*, cols. 4:51-55, 15:64-16:19). Essentially, Alcatel's argument is that because the specification describes the function of the "switch fabric" in much the same way the claims describe the function of the "optical switch subsystem," these two terms must be synonymous. (D.I. 413 at 7-8) Lambda disagrees. (D.I. 393 at 8-9)

When the specification uses the term "switch fabric," it is typically in the context of describing certain figures provided in the '229 patent. (*See, e.g.*, '229 patent, cols. 4:51-55, 15:64-16:12) The '229 patent, however, makes clear that such figures are "preferred embodiments" and that "many variations and modifications" are possible. (*See id.*, col. 54:13-20) Outside of those descriptions of certain preferred embodiments, Alcatel points to only one other instance where the term "switch fabric" is used in the patent in a way that purportedly supports its argument—a reference in the patent's Abstract. (*See* D.I. 367 at 10) The Abstract simply states that "[a]n optical switching fabric provides selective optical coupling between the

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[2] In addressing claim construction, the Court is guided by Supreme Court and Federal Circuit precedent regarding that process, as set out in the Court's August 3, 2012 Report and Recommendation. (D.I. 234 at 5-7)

cards." ('229 patent, Abstract) In the Court's view, this statement and the context in which it is found does not make it clear enough that the term "optical switch subsystem" is meant to capture a concept that is identical to the term "switch fabric."[3] (D.I. 413 at 8)[4]

Case law indicates that generally, when different words are used in claims, the words are presumed to carry different meanings. *See, e.g.*, *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1324-25 (Fed. Cir. 2005). Even though Alcatel's argument here is slightly different, i.e., that language used in the *specification* is interchangeable with language in the *claims*, the Court concludes the general principle set out in these cases is instructive (and Alcatel cites to no authority to the contrary). *See, e.g.*, *Novartis Pharm. Corp. v. Actavis, Inc.*, Civil Action No. 12-366-RGA-CJB, 2013 WL 6142747, at *5 (D. Del. Nov. 21, 2013) (assessing whether a term used only in a specification was synonymous with a term used both in the claims and the specification, and

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[3] In arguing that the terms "switch fabric" and "optical switch subsystem" are used "interchangeably" by the patentee, Alcatel also points to a quotation from the Court's Report and Recommendation on claim construction. There, for example, when making reference to Figures 24-26 of the patent, the Court stated that "[i]n each case, the signals entering and leaving the switch fabric, or 'optical switching subsystem,' are single-wavelength, while the signals entering and leaving the TP ingress and TP egress subsystems, respectively, are multi-wavelength." (*See* D.I. 413 at 8 (citing D.I. 234 at 29)) In this portion of its Report and Recommendation, the Court did not conclude that the terms "switch fabric" and "optical switch subsystem" are in all instances synonymous. To the extent that this quoted portion suggests that "switch fabric" and "optical switch subsystem" are interchangeable, it is only with respect to the specific figures addressed in that passage (figures that use the term "Switch Fabric" to refer to the optical switch subsystem depicted therein), which in turn represent only preferred embodiments of the invention. ('229 patent, FIGS. 24-26)

[4] Indeed, at times in its briefing, even Alcatel seems to hedge on whether the optical switch subsystem *has to be* a switch fabric (instead asserting that it must amount to an "[i]nterrelated and [i]nterconnected '[s]ubsystem' [*s*]*uch* [*a*]*s* [a] [s]witch [f]abric.") (D.I. 413 at 7 (emphasis added and omitted))

noting that "[o]rdinarily, when different words are used in a patent, it is presumed that they carry different meanings") (citing cases). This case is not, for example, one where the patentee acted as his own lexicographer and stated that two different terms were synonymous. *See, e.g.*, *AIA Eng'g Ltd. v. Magotteaux Int'l S/A*, 657 F.3d 1264, 1276 (Fed. Cir. 2011). Thus, while the examples provided by Alcatel may lead to the conclusion that an "optical switch subsystem" and "switch fabric" can perform the same functions (or that a "switch fabric" can serve as an "optical switch subsystem"), the Court cannot conclude that the claim term "optical switch subsystem" necessarily has an identical meaning to that of the term "switch fabric." That is, the Court cannot conclude that an optical switch subsystem could not be comprised of optical devices that perform the switching functions construed by the Court. (D.I. 393 at 9)[5]

2. Whether the "selectively provide optical coupling" requirement may be met where the function is completed by a human operating fiber-optic cables

The parties' second claim construction dispute is whether, in claims 1 and 25, the act of "selectively provid[ing] optical coupling" excludes human intervention. (D.I. 367 at 10-11; D.I.

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[5] Alcatel argues in the alternative that even if the "optical switch subsystem" is not precisely the same thing as the "switch fabric," the components within the Accused Products that Lambda describes as a "subsystem" are not sufficiently "interconnected" to meet the definition of that term. (D.I. 367 at 17-18) In doing so, Alcatel cites to a technical dictionary, *The Authoritative Dictionary of IEEE Standards Terms*, which defines a "subsystem" as "an interconnected, interrelated group of equipment intended to serve a single basic purpose within a larger installation or facility." (*Id.* (internal quotation marks and citation omitted)) Lambda responds by pointing to a different technical dictionary that provides definitions suggesting that a subsystem must only consist of "interrelated and/or interdependent components which form a complex whole[.]" (Tr. at 73-74 (citing the *Wiley Electrical Electronics Engineering Dictionary*)) Even utilizing Alcatel's more restrictive definition—one that requires not just interrelatedness, but also interconnectivity—it is not absolutely clear that any of Lambda's proposed optical switch subsystems in any of the Accused Products would fail to meet that definition. (*See* D.I. 396, ex. 14 at A419-39)

393 at 5) Alcatel asserts that these claims do not cover instances where human actors plug and unplug fiber-optic cables in order to selectively couple subsystems. (D.I. 367 at 10-11; *see also* D.I. 413 at 1 ("Neither the '229 patent nor well-settled law allow a human being to actually *be* the switch.") (emphasis in original)) Lambda believes such scenarios are covered by the claims. (D.I. 393 at 5)

As an initial matter, Alcatel correctly takes note of the fact that in claims 1 and 25, it is the "optical switch subsystem" that "is adapted to selectively provide" optical coupling. (D.I. 413 at 2) The parties agree that a "subsystem" is, at the very least, a complex whole made up of interrelated components. (*See* D.I. 367 at 17-18; Tr. at 73-74) And, as the Court noted in its Report and Recommendation on claim construction, "[i]n the fiber-optics context, a switching system, or 'switch' is generally defined as '[a] mechanical, electrical, or optical *device* that breaks or completes a path in a circuit, or changes the path.'" (D.I. 234 at 3 n.2 (emphasis added) (citing D.I. 192, ex. 2 at 899); *cf. id.* at 45 (construing an "all-optical switch" as "a *device* that switches optical signals without electrical conversion") (emphasis added)) Thus, as a linguistic matter, when the claims note that this device (the "optical switch subsystem") is the thing that itself is "adapted *to selectively provide* optical coupling" relating to an "optical network," the wording strongly suggests that *the device itself* is engaging in the key action (not that such action is undertaken by a combination of the device and of the work of a human actor).

The specification supports this conclusion. As Alcatel notes (and Lambda does not dispute), the specification has no disclosure of humans performing the type of fiber-optic cable switching that Lambda contends is covered by the claims. (D.I. 393 at 6; D.I. 413 at 3) All of

the preferred embodiments do not envision such human intervention,[6] and when the patent otherwise describes "selectively provid[ing] optical coupling" it does not indicate that a human plays a role in that process, (*see* '229 patent at Abstract ("An optical switching fabric provides selective optical coupling between the cards.")).

Lambda argues that the Court has already concluded that this type of "human intervention" (i.e., a human plugging and unplugging fiber-optic cables) is within the scope of the invention. (D.I. 393 at 5) In this regard, Lambda cites exclusively to a single footnote in the Court's Report and Recommendation on claim construction, which states in full: "Manual selection of a signal path is also possible within the scope of the invention. ('229 patent, col. 34:44-46)[.]" (D.I. 234 at 38 n.20) This statement does not carry the meaning Lambda ascribes to it.

The meaning of this brief footnote is best understood by reviewing the portion of the specification it cites. That portion of the specification comes within an explanation of Figure 34, under the heading "Network Management System Software[.]" ('229 patent, col. 33:47) The specific paragraph in which the cited portion appears describes a component of Figure 34 called the "connection manager[.]" (*See id.*, col. 34:37) In pertinent part, that paragraph reads as follows, with the portion cited to by the Report and Recommendation in italics:

> The connection manager **3430** provides a way to view existing light path connections between [optical transport switching systems], including connections within the [optical transport switching system] itself, and to create such connections. The

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[6] (*See, e.g.*, '229 patent, cols. 4:5-8 (explaining that "[t]ypically, the all-optical switching . . . is achieved through the use of Micro-Electro-Mechanical System (MEMS) technology"); 6:55-58 (describing switching fabric cards as performing optical coupling), 15:64-16:19 (describing optical switch fabric module as providing switching); *see also* D.I. 393 at 6)

> connection manager **3430** supports simple cross connects as well as end-to-end connections traversing the entire network. *The user is able to dictate the exact path of a light path by manually specifying the ports and cross connects to use at an [optical transport switching system].* Or, the user may only specify the endpoints and let the connection manager set up the connection automatically. Generally, the endpoints of a connection are [optical access] ports, and the intermediate ports are [transport] ports.

(*Id.*, col. 34:37-47 (emphasis added)) From reading this sentence in its context, it is clear that where the "user" is "manually specifying the ports and cross connects to use at an [optical transport switching system][,]" he is doing so through the connection manager, i.e., system software designed to "create such connections." In other words, the connection manager, as described in this portion of the specification, provides a user with two options: (1) he can "manually" input into the connection manager the specific connections he desires the optical transport switching system to make; or (2) he can input only the "endpoints" into the connection manager, and let that software "set up the connection automatically." Thus, under either scenario, the optical transport switching system is the device that ultimately makes the connections necessary to achieve the desired signal path. This form of user action is distinctly unlike the use of a human being to physically plug and unplug fiber-optic cables that, in some of the Accused Products, Lambda points to as amounting to infringement of certain asserted claims.[7]

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[7] The parties cite to various cases in their briefing regarding whether, and to what extent, a human being may conduct activity relevant to a patent claim. (D.I. 367 at 11-12; D.I. 393 at 5-6) Alcatel, for example, cites to cases involving means-plus-function claims, which stand for the proposition that a human performing a function in the operation of a claimed apparatus does not count as corresponding structure for a means-plus-function limitation. *See, e.g., Davies v. United States*, 31 Fed. Cl. 769, 778-79 (Fed. Cl. 1994) ("Patent claims do not cover structures in which a human being substitutes for a part of the claimed structure.").

Therefore, this is a case where both the claim language and the entirety of the specification all point in the same direction. *Cf. Am. Radio LLC v. Qualcomm Inc.*, 578 F. App'x 975, 978-79 (Fed. Cir. 2014) (affirming district court's limiting construction of a claim term where the claim language and patent specification, including figures, all consistently supported that definition). Accordingly, the Court agrees with Alcatel that in the '229 patent: "[A] person can select a path that exists as an option in the claimed switching subsystem[,] but cannot act *as* the switch and create the path him/herself." (D.I. 413 at 3)

B. The Accused Products

Having resolved the parties' two claim construction disputes, the Court turns to the Accused Products. *See Athletic Alternatives, Inc v. Prince Mfg., Inc.*, 73 F.3d 1573, 1578 (Fed. Cir. 1996) (finding that where "the question of literal infringement collapses to one of claim construction[,]" summary judgment may be appropriate). To literally infringe a claim, an accused product must contain each properly construed limitation of the claim; any deviation from the claim precludes a finding of infringement. *Telemac Cellular Corp. v. Topp Telecom., Inc.*, 247 F.3d 1316, 1330 (Fed. Cir. 2001); *Helios Software, LLC v. SpectorSoft Corp.*, C.A. No. 12-

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Lambda, for its part, cites to cases involving apparatus claims in which a human initiates, interrupts or plays a role in a process that is to be carried out by a claimed electronic device, *see, e.g.*, *Whitserve, LLC v. Computer Packages, Inc.*, 694 F.3d 10, 19 (Fed. Cir. 2012), or to cases involving method claims wherein the method involves the use of an apparatus, but where the patent indicates that some human intervention may be involved in the use of that apparatus, *see, e.g.*, *Frank's Casing Crew & Rental Tools, Inc. v. PMR Techs., Ltd.*, 292 F.3d 1363, 1375 (Fed. Cir. 2002); *Nuance Commc'ns, Inc. v. Abbyy Software House, Inc.*, No. C 08-02912 JSW, 2012 WL 1188903, at *4 (N.D. Cal. Apr. 9, 2012). In the end, the Court does not find that these cases (which, of course, involved different claims and different records than the instant case) direct the outcome one way or the other here. The claims at issue here involve a subsystem (the optical switch subsystem) and the question is whether a function this subsystem performs (selectively providing optical coupling) can in part be conducted by a human being. The Court reads the claim language and the specification as indicating that it cannot.

081-LPS, 2014 WL 4796111, at *7 (D. Del. Sept. 18, 2014).

At the outset, the Court notes that after deciding one claim construction issue in Lambda's favor and the other in Alcatel's favor, the parties' briefs do not make the resulting process of applying those constructions to the Accused Products particularly easy. Nevertheless, the Court finds that there are undisputed facts that, as to some Accused Products, require that summary judgment be entered in Alcatel's favor.

1. 1625 LambdaXtreme and 1696 ROADM "Blocker" Variant

Lambda acknowledges that for these two products, to "optically and/or selectively couple or uncouple optical access ingress and egress subsystems" requires that "connections [be] made, changed or removed *by an operator*" using fiber-optic cables to "optically and/or selectively couple or uncouple optical access and egress subsystems in the accused devices." (D.I. 393 at 7-8 (citing D.I. 396, ex. 14 at A419-28; D.I. 397, ex. 62 at ¶¶ 34-37) (emphasis added); *see also id.* at 16 (Lambda asserting that, as to the 1696 ROADM "Blocker" Variant, "[t]he accused system is designed for selection using patch cords [i.e., fiber-optic cables]")) This is precisely the type of human-directed plugging and unplugging of fiber-optic cables that the Court concluded above is not covered by claims 1 and 25 of the '229 patent. Accordingly, the Court recommends that summary judgment be granted in Alcatel's favor as to these two products.

2. 1696 ROADM "WSS" Variant

Citing its expert reports, Lambda asserts that for this product, no fiber-optic cables are required for infringement of claims 1 and 25. (D.I. 393 at 17) That is, according to Lambda, the type of human-directed acts required for infringement in the first two devices are not necessarily present for this product. Although Alcatel disputes Lambda's assertion, (D.I. 367 at 13 & n.6;

D.I. 413 at 6 n.4), Lambda has put forth specific facts showing that there is a genuine issue for trial, (D.I. 393 at 17-18 (Lambda asserting that this product "has the capability to select a path for any wavelength channel . . .") (citing D.I. 396, ex. 14 at A426-28; D.I. 397, ex. 62 at ¶¶ 38-39)). Accordingly, the Court recommends that summary judgment be denied as to this product.

3. 1830 Photonic Service Switch "WR" Variant

As to this product, it is undisputed that, for Claim 1 of the '229 patent, the "selectively provide" requirement could only be met when a human actor manually operates fiber-optic cables. (*See* D.I. 393 at 13 (Lambda acknowledging that "[c]hannel selection [as to Claim 1] is performed at the [fiber-optic cable] connections"); *see also id.* (Lambda implicitly acknowledging that there is no infringement as to Claim 1 without taking into account the "reconfigurable [fiber-optic cable] connections" by arguing that such "reconfigurable" connections were unnecessary to find infringement for Claim 25)) As to whether this device infringes Claim 25, however, there is a genuine issue of material fact. (*See id.* (Lambda asserting that "this configuration still infringes claim 25 even without the reconfigurable [fiber-optic cable] connections") (citing D.I. 396, ex. 14 at A429-32; D.I. 397, ex. 62 at ¶¶ 44-45); *see also* D.I. 413 at 6 n.4 (Alcatel asserting that Lambda's allegations of infringement as to claim 1 for this product rely on "a person being part of a 'switch[,]'" but the corresponding allegations for claim 25 do not)) Accordingly, the Court recommends that summary judgment be granted for this product as to claim 1, but not claim 25.

4. 1830 Photonic Service Switch "CWR" Variant

For this device, the Court's conclusions are just the opposite of those for the other variation of this same product discussed above. Here, it is claim 25 where the "optical coupling .

. . is accomplished through patch cord connection[.]" (D.I. 393 at 15) That is, even Lambda asserts that manual reconfiguration of fiber-optic cables is necessary for infringement of claim 25 to take place. (*See id.* (Lambda stating that, "[w]ith regard to claim 25," that "only those wavelengths selected for coupling will be manually attached by patch cords," and when an "[a]n input channel is chosen, or selected," that process is accomplished by using a "reconfigurable" fiber-optic cable)) Lambda, however, contends that the same does not hold true as to claim 1. (*See id.* at 14) While Alcatel disagrees and presents some evidence of non-infringement, (*see, e.g.*, D.I. 367 at 13-14), Lambda has come forward with specific facts showing that there is a genuine issue for trial as to this product's infringement of claim 1, (*see* D.I. 396, ex. 14 at A429-32; D.I. 397, ex. 62 at ¶¶ 47-49 *see also* D.I. 413 at 6 n.4 (Alcatel asserting that Lambda's allegations of infringement as to claim 25 for this product rely on "a person being part of a 'switch[,]'" but the corresponding allegations for claim 1 do not)). Accordingly, the Court recommends that summary judgment be granted for this product as to claim 25, but not claim 1.

C. Doctrine of Equivalents

As to Lambda's alternative assertion that the Accused Products infringe according to the doctrine of equivalents, Alcatel makes two non-infringement arguments.[8] (D.I. 367 at 18-20) First, Alcatel argues that "all equivalents for the 'optical switch subsystem' limitation" in claims

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[8] To prove infringement under the doctrine of equivalents, "a patentee must provide particularized testimony and linking argument with respect to the 'function, way, result' test." *Cephalon, Inc. v. Watson Pharms., Inc.*, 707 F.3d 1330, 1340 (D. Del. 2013) (internal quotation marks and citation omitted) (noting that the essential inquiry in any such determination is whether the accused product or process contains elements identical to or equivalent to each claimed element of the patented invention). The function-way-result test "asks whether an element of an accused product performs substantially the same function in substantially the same way to obtain the same result as an element of the patented invention." *Id.* (internal quotation marks and citation omitted).

1 and 25 were surrendered by the patentee during prosecution of what became the '229 patent. (*Id.* at 18-19) Second, Alcatel argues that the expert report submitted by Lambda's expert, Dr. Smith, "ignores" the Court's claim construction of the "selectively provide optical coupling" limitation, and thus Dr. Smith's opinion "fails[.]" (*Id.* at 19-20)

At a minimum, Alcatel's second argument is sound. (*See id.*)[9] With this argument, Alcatel notes that the Court's Report and Recommendation on claim construction construed "adapted to selectively provide optical coupling between the transport ingress subsystem and at least one of (1) the optical access egress subsystem, and (2) the transport egress subsystem" in claim 1 to mean "*capable of switching* optical signals from the transport ingress subsystem to (1) the optical access egress subsystem and to (2) the transport egress subsystem[.]" (D.I. 234 at 46 (emphasis added, internal quotation marks omitted)) In Dr. Smith's Infringement Report, he equates this construction with a "function" of being "capable of (1) providing an optical path between the transport ingress subsystem and the access egress subsystem and (2) providing an optical path between the transport ingress subsystem and the transport egress subsystem." (D.I. 370, ex. 13 at A256)

Alcatel is correct that "[n]othing in [Dr. Smith's] supposedly equivalent 'switch' requires any actual switching nor any selectivity." (D.I. 367 at 20) Thus, Dr. Smith's assertedly equivalent switch stands directly at odds with the Court's construction, which explicitly required that a switch subsystem be itself "capable of making several connections" between subsystems—a limitation that "mean[s] more than just directing wavelengths along a *selected*

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[9] Lambda did not address this second doctrine of equivalents argument directly in its briefing. (D.I. 413 at 10; Tr. at 70; *see also* D.I. 393 at 19-20)

path." (D.I. 234 at 37, 40 (emphasis in original)) As Alcatel's second argument regarding claim 1 applies equally to claim 25, (*see* D.I. 370, ex. 13 at A257), the Court agrees with Alcatel that the way that Dr. Smith has articulated his doctrine of equivalents analysis fails to comport with the Court's construction of those claims. For this reason, summary judgment is warranted on the ground that Alcatel's Accused Products do not infringe the patent-in-suit under the doctrine of equivalents.[10]

IV. CONCLUSION

For the reasons set out above, the Court recommends that Defendants' Motion for Summary Judgment of Non-Infringement be GRANTED-IN-PART. More specifically, the Court recommends that the Motion be granted with respect to the following accused products: (1) the 1625 LambdaXtreme; (2) 1696 ROADM "Blocker" Variant; (3) 1830 Photonic Service Switch "WR" Variant (as to claim 1); and (4) 1830 Phototonic Service Switch "CWR" Variant (as to claim 25); and DENIED with respect to the following products: (1) 1696 ROADM "WSS" Variant; (2) 1830 Photonic Service Switch "WR" Variant (as to claim 25); and (3) 1830 Phototonic Service Switch "CWR" Variant (as to claim 1). Summary judgment is also warranted on the ground that all of Alcatel's Accused Products do not infringe the patent-in-suit under the doctrine of equivalents.

This Report and Recommendation is filed pursuant to 28 U.S.C. § 636(b)(1)(B), Fed. R.

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[10] In its opening brief, Alcatel also argued that Lambda has presented no evidence or expert opinion on indirect infringement. (D.I. 367 at 20) The parties, however, appear to be in agreement that Lambda's only indirect infringement argument is made as to a combination of the sale of the 1625 LX and 1675 LambdaUnite products, and that the present disputes as to this issue are captured in the briefing relating to Alcatel's Motion for Summary Judgment Regarding Damages. (*See* D.I. 393 at 20; D.I. 413 at 10)

Civ. P. 72(b)(1), and D. Del. LR 72.1. The parties may serve and file specific written objections within fourteen (14) days after being served with a copy of this Report and Recommendation. Fed. R. Civ. P. 72(b)(2). The failure of a party to object to legal conclusions may result in the loss of the right to *de novo* review in the district court. *See Sincavage v. Barnhart*, 171 F. App'x 924, 925 n.1 (3d Cir. 2006); *Henderson v. Carlson*, 812 F.2d 874, 878–79 (3d Cir. 1987).

The parties are directed to the Court's Standing Order for Objections Filed Under Fed. R. Civ. P. 72, dated October 9, 2013, a copy of which is available on the District Court's website, located at http://www.ded.uscourts.gov.

Because this Report and Recommendation may contain confidential information, it has been released under seal, pending review by the parties to allow them to submit a single, jointly proposed, redacted version (if necessary) of the Report and Recommendation. Any such redacted version shall be submitted no later than **August 4, 2015** for review by the Court, along with a detailed explanation as to why disclosure of any proposed redacted material would "work a clearly defined and serious injury to the party seeking closure." *Pansy v. Borough of Stroudsburg*, 23 F.3d 772, 786 (3d Cir. 1994) (internal quotation marks and citation omitted). The Court will subsequently issue a publicly-available version of its Report and Recommendation.

Dated: July 28, 2015

Christopher J. Burke
UNITED STATES MAGISTRATE JUDGE