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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

APPLIED OPTOELECTRONICS, INC., Plaintiff, v. EOPTOLINK TECHNOLOGY USA INC., Defendant.	Case No. 5:24-cv-08165-NW **DEFENDANT EOPTOLINK TECHNOLOGY USA, INC.'S INVALIDITY CONTENTIONS**

Defendant Eoptolink Technology USA Inc. ("Eoptolink" or "Defendant"), hereby discloses its Invalidity Contentions for U.S. Patent No. 9,448,367 (the "'367 Patent"), U.S. Patent No. 9,509,433 (the "'433 Patent"), U.S. Patent No. 10,230,470 (the "'470 Patent"), U.S. Patent No. 10,578,818 (the "'818 Patent), U.S. Patent No. 11,177,887 (the "'887 Patent"), and U.S. Patent No. 10,714,890 (the "'890 Patent") (collectively, the " Asserted Patents").

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I. INTRODUCTION

In its June 13, 2025, Infringement Contentions and Disclosures, Plaintiff Applied Optoelectronics, Inc. ("AOI") asserts the following claims of the Asserted Patents (collectively, the "Asserted Claims"):

The '367 Patent: claims 1-9

The '433 Patent: claims 1, 2, 13, and 14

The '470 Patent: claims 1, 2, 10, and 17

The '818 Patent: claims 1-7, 9 and 10

The '887 Patent: claims 1-3 and 10

The '890 Patent: claims 1-3, 5, and 7

Pursuant to Patent L.R. 3-3, these Invalidity Contentions include: (a) the identity of prior art that anticipates each Asserted Claim or renders it obvious; (b) a statement specifying whether each item of prior art anticipates each Asserted Claim or renders it obvious; (c) a chart that identifies where in each item of prior art each limitation of each Asserted Claim is found; and (d) grounds for invalidity of the Asserted Claims based on indefiniteness or written description under 35 U.S.C. § 112.

II. CLAIM CONSTRUCTION

Eoptolink's Invalidity Contentions are based on its present understanding of the scope of the Asserted Claims and/or the apparent claim constructions Eoptolink believes AOI to be asserting based on its Infringement Contentions, whether or not Eoptolink agrees with such claim constructions. To the extent that Eoptolink's Invalidity Contentions reflect constructions of claim limitations consistent with or implicit in AOI's Infringement Contentions, no inference should be drawn that Eoptolink agrees with AOI's claim constructions. Eoptolink expressly reserves its right to put forth its own claim constructions and contest the construction of the Asserted Claims. Eoptolink's Invalidity Contentions may be in the alternative to any position it may ultimately take as to any claim construction issues. In the absence of a claim construction ruling, Eoptolink's Invalidity Contentions are made in the alternative, and are not necessarily intended to be consistent with each other, and should not be otherwise construed.

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Similarly, the mapping of the Asserted Claims to prior art does not imply that the meaning and scope of the claims/claim limitations are reasonably clear. The claim charts accompanying this Invalidity Contentions are based on Eoptolink's present understanding of AOI's interpretations of the Asserted Claims as set forth in the Infringement Contentions.

Specifically, for the '470, '818, and '890 patents, Eoptolink's Invalidity Contentions assert that the Asserted Claims of these three patents are anticipated, or at a minimum rendered obvious, by the asserted Eoptolink 100G QSFP LR4 (QL97099330) product, which was publicly sold at least as early July 2016, i.e., before the earliest effective filing date of each of the '470, '818, and '890 patents. For the invalidity claim charts based on the 100G QSFP LR4 (QL97099330) product (exhibits C-6, D-4, and F-4), Eoptolink has applied the same apparent claim constructions that Eoptolink believes AOI to be asserting in its Infringement Contentions, under the doctrine of "[t]hat which infringes, if later, would anticipate, if earlier," regardless of whether Eoptolink agrees with such claim constructions. *Peters v. Active Manufacturing Co.,* 129 U.S. 530, 537 (1889). As stated previously, Eoptolink does not necessarily agree with AOI's implicit claim constructions in its infringement charts, but in the event the Court agrees with AOI's implicit constructions and infringement mapping for the asserted claims of the '470, '818, and '890 patents, then there can be no dispute that the Eoptolink 100G QSFP LR4 (QL97099330) (either alone or in combination with the specified references) renders those claims invalid.

As discussed below, Eoptolink asserts that one or more Asserted Claims are invalid for lack of definiteness.

III. RIGHT TO SUPPLEMENT

Eoptolink's Invalidity Contentions set forth below and in the attached exhibits are subject to supplementation and amendment when the Court issues its claim construction ruling, if and when AOI provides supplemental Infringement Contentions, or as otherwise provided for under the Patent Local Rules.

In addition, Eoptolink's investigation regarding invalidity of the Asserted Patents, including invalidity based on prior use, public use or on sale bar, improper inventorship and derivation, prior invention, obviousness under 35 U.S.C. § 103, and failure to comply with 35

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U.S.C. § 112 is ongoing. Accordingly, the following contentions are subject to revision and amendment pursuant to Federal Rule of Civil Procedure 26(e) and the Court's Patent Local Rules to the extent appropriate in light of Eoptolink's further investigation and discovery, any supplementation of AOI's Infringement Contentions, the Court's construction of the Asserted Claims, and the review and analysis of expert witnesses. Eoptolink reserves the right to modify, amend, or supplement these Invalidity Contentions in accordance with the Patent Local Rules, as additional documents and information become available (including documentation and information that AOI has not yet produced or provided), and as discovery and investigation proceed. Eoptolink further reserves the right to introduce and use such supplemental materials at trial.

Moreover, Eoptolink is currently unaware of the extent, if any, to which AOI will contend that limitations of the Asserted Claims are not disclosed in the art identified by Eoptolink. To the extent that an issue arises with respect to any such limitation, Eoptolink reserves the right to identify references and combinations, which may render obvious the addition of the allegedly missing limitation to the disclosed method or apparatus.

IV. IDENTIFICATION OF PRIOR ART

Pursuant to Patent L.R. 3-3(a) Eoptolink contends that the following prior art anticipate and/or render obvious each Asserted Claim.

Prior Art	**Country of Origin**	**Filing Date (if applicable)**	**Date of Issue/Publication/ Sale/Offer for Sale**
US 8,611,094 to Aruga ("Aruga")	US	February 7, 2011	December 17, 2013
US 2016/0286657 to Ban ("Ban")	US	March 18, 2016	September 29, 2016
Bernasconi et al., "Design and Challenges in a 100 Gb/s Hybrid-Integrated Photonic Circuit," in European Conference and Exhibition on Optical Communication, OSA	US	--	September 2012

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Prior Art	Country of Origin	Filing Date (if applicable)	Date of Issue/Publication/ Sale/Offer for Sale
Technical Digest (online) (Optica Publishing Group, 2012), paper Tu.4.E.3 ("Bernasconi")			
WO 2006/046004 A1 to Bleus, et al. ("Bleus")	UK	October 14, 2005	May 4, 2006
US 7,583,900 to Dallesasse, et al. ("Dallesasse")	US	March 14, 2008	September 1, 2009
US 6,542,306 to Goodman ("Goodman")	US	March 16, 2001	April 1, 2003
US 2002/0018625 to Grann, et al. ("Grann")	US	March 12, 2001	February 14, 2002
US 6,558,046 to Griffis, et al. ("Griffis")	US	March 12, 2001	May 6, 2003
US 8,750,710 to Hirt, et al. ("Hirt")	US	July 15, 2011	June 10, 2013
US 9,306,671 to Ho, et al. ("Ho")	US	December 7, 2012	April 5, 2016
SFF Committee "10 Gigabit Small Form Factor Pluggable Module," INF-8077i, Rev 4.5	US	--	August 31, 2005
JP 2005-269474	Japan	March 22, 2004	September 29, 2005
JP 5525875 to Kawamura ("Kawamura"), Certified English Translation Cited Herein	Japan	May 17, 2010	June 18, 2014
JP 5663944 to Kazuhiro ("Kazuhiro"), Certified English Translation Cited Herein	Japan	May 12, 2010	February 4, 2015
US 2009/0010600, to Kim, et al. ("Kim")	US	August 17, 2007	January 8, 2009
US 10,477,690, to Kim et al. ("Kim-2")	US	February 8, 2017	November 12, 2019

Prior Art	Country of Origin	Filing Date (if applicable)	Date of Issue/Publication/ Sale/Offer for Sale
US 2014/0104808, to Koutrokois ("Koutrokois")	US	October 15, 2012	April 17, 2014
US 7,439,449 to Kumar, et al. ("Kumar")	US	April 9, 2003	October 21, 2008
US 8,678,674 to Kunii, et al ("Kunii")	US	November 12, 2012	March 25, 2014
US 2011/0064364 to Kurashima ("Kurashima")	US	September 9, 2010	March 17, 2011
US 2010/0239220 to Lin, et al. ("Lin")	US	June 2, 2010	September 23, 2010
Struhar, "Selecting a Small-Form-Factor Fiber Optic Connector for Private Networks," published by Lucent Technologies, Inc. in Fiber Optic Technical Bulletin 21	US	--	November 20, 1998
US 2005/0180754 to Mizue, et al. ("Mizue")	US	February 13, 2004	August 18, 2005
US 6,837,627 to Nakanishi, et al. ("Nakanishi")	US	April 11, 2002	January 4, 2005
US 10,534,147 to Ozaki, et al. ("Ozaki")	US	March 23, 2015	January 14, 2020
US 9,331,789 to Sato ("Sato")	US	November 8, 2013	May 3, 2016
US 9,385,830 to Sato ("Sato-2")	US	November 6, 2014	July 5, 2016
US 6,841,733 to Schiaffino, et al. ("Schiaffino")	US	September 4, 2003	January 11, 2005
US 9,927,585 to Shih ("Shih")	US	August 21, 2017	March 27, 2018
US 2015/0263453 to Wang, et al. ("Wang")	US	June 5, 2014	September 17, 2015
US 8,655,119 to Yagisawa ("Yagisawa")	US	September 10, 2010	February 18, 2014

Prior Art	Country of Origin	Filing Date (if applicable)	Date of Issue/Publication/ Sale/Offer for Sale
US 2011/0044591 to Yoshikawa, et al. ("Yoshikawa")	US	August 18, 2010	February 24, 2011
US 2005/0286839 to Yoshikawa ("Yoshikawa-2")	US	June 15, 2005	December 29, 2005
EOLQ-161HG-10-L, (Eoptolink 100G QSFP LR4 (QL97099330)) ("Prior Art Device")	--	--	At least as early as July 2016

V. STATEMENT OF WHETHER PRIOR ART ANTICIPATES OR RENDERS OBVIOUS THE ASSERTED CLAIMS

Pursuant to Patent L.R. 3-3(b), in the six tables below, Eoptolink states whether the identified prior art anticipates or renders obvious the Asserted Claims. In each of the claim charts (Exhibits A1-A4, B1-B4, C1-C6, D1-D4, E1-E3, F1-F4) identified below, Eoptolink cites many references in the body of the charts that are not reflected in the "Grounds for Invalidity," and those references serve as teaching references that disclose the state of the art in the relevant field and support the knowledge of a person skilled in the art, and/or serve as references that provide a motivation to combine or modify the base (primary and secondary) references under 35 U.S.C. § 103.

A. The '367 Patent

Asserted Claims	Grounds for Invalidity	Exhibit No.
1-9	Rendered obvious by Yoshikawa in view of Yoshikawa-2	A-1
1-9	Rendered obvious by Kurashima in view of Yoshikawa-2	A-2
1-9	Anticipated or rendered obvious by Mizue	A-3
1-9	Rendered obvious by Kim in view of	A-4

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	Yoshikawa-2	

B. The ’433 Patent

Asserted Claims	Grounds for Invalidity	Exhibit No.
1, 2, 13, and 14	Rendered obvious by Grann in view of Bernasconi	B-1
1, 2, 13, and 14	Rendered obvious by Dallesasse in view of Goodman, Hirt, and/or Bernasconi	B-2
1, 2, 13, and 14	Rendered obvious by Bernasconi in view of Dallesasse	B-3
1, 2, 13, and 14	Rendered obvious by Griffis in view of Bernasconi and/or Dallesasse	B-4

C. The ’470 Patent

Asserted Claims	Grounds for Invalidity	Exhibit No.
1, 2, 10, and 17	Rendered obvious by Aruga in view of Yagisawa	C-1
1, 2, 10, and 17	Rendered obvious by Kazuhiro in view of Yagisawa	C-2
1, 2, 10, and 17	Rendered obvious by Kim-2 in view of Kumar	C-3
1, 2, 10, and 17	Rendered obvious by Kawamura in view of Yagisawa	C-4
1, 2, 10, and 17	Anticipated or rendered obvious by Yagisawa	C-5
1, 2, 10, and 17	Anticipated by prior art system EOLQ-161HG-10-L, or rendered obvious by EOLQ-161HG-10-L alone or in view of Ban	C-6

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D. The ’818 Patent

Asserted Claims	Grounds for Invalidity	Exhibit No.
1-7, 9, and 10	Anticipated or rendered obvious by Wang	D-1
1-7, 9, and 10	Anticipated or rendered obvious by Koutrokois	D-2
1-7, 9, and 10	Rendered obvious by Shih in view of Koutrokois	D-3
1-7, and 10	Anticipated or rendered obvious by prior art system EOLQ-161HG-10-L	D-4

E. The ’887 Patent

Asserted Claims	Grounds for Invalidity	Exhibit No.
1-3, and 10	Anticipated by Yoshikawa	E-1
1-3, and 10	Anticipated by Mizue	E-2
1-3, and 10	Anticipated or rendered obvious by Ozaki in view of Kunii, Mizue, and/or Yoshikawa	E-3

F. The ’890 Patent

Asserted Claims	Grounds for Invalidity	Exhibit No.
1-3, 5, and 7	Rendered obvious by Sato in view of Sato-2	F-1
1-3, 5, and 7	Rendered obvious by Schiaffino in view of Sato-2 and/or Sato	F-2
1-3, 5, and 7	Rendered obvious by Nakanishi in view of Sato-2 and/or Sato	F-3
1-3, 5, and 7	Anticipated or rendered obvious by prior art system EOLQ-161HG-10-L	F-4

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In the specific statements above, to the extent the prior art, alone or in the combinations indicated, lacks any specific limitation exactly, the claims are obvious over the prior art under the following standard from the Supreme Court:

> When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

KSR International Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007).

With regard to the proposed obviousness combinations, the following standard applies:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 417.

All of the combinations set forth above involve references in the same field attempting to solve the same problems.

VI. CHARTS IDENTIFYING WHERE EACH LIMITATION OF EACH ASSERTED CLAIM IS FOUND IN THE PRIOR ART

In accordance with Patent Rule L.R. 3-3(c), the claim charts in Exhibits A1-A4, B1-B4, C1-C6, D1-D4, E1-E3, and F1-F4 identify how the prior art listed above correlates with the limitations in each of the Asserted Claims. The charts cite exemplary portions of the prior-art references that disclose particular limitations of the Asserted Claims, but the citations are informative, not exhaustive. Therefore, the citations should not be construed as limiting. Eoptolink intends to rely on each reference in its entirety, including the uncited portions. One of ordinary skill in the art would read a prior art reference as a whole and in the context of the state of the art. Therefore, Eoptolink may rely on the uncited portions of the prior art references, other publications, and the

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general state of the art to aid the understanding of the cited portions of the prior art references and to establish the motivation to modify or combine the cited references.

VII. IDENTIFICATION OF GROUNDS FOR INVALIDITY BASED ON § 112 PURSUANT TO PATENT L.R. 3-3(d)

A. Indefiniteness

35 U.S.C. § 112(b) and 35 U.S.C. § 112, ¶2 (pre-AIA) require that a patent "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter" which the applicant regards as his invention. The primary function of this requirement is to ensure that the language of a patent claim is sufficiently "definite" to inform the public of the boundaries of the protected invention. A lack of definiteness renders a patent claim invalid. "[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc*., 134 S. Ct. 2120, 2124 (2014). Several claim limitations of the Asserted Patents fail to meet this standard, thereby rendering the claims (and the claims that depend therefrom) invalid as indefinite under § 112(b) or § 112, ¶2 (pre-AIA).

B. The '818 Patent

Claim 10 of the '818 patent recites "[a]n optical transceiver, comprising a main body comprising two lateral surfaces and an outer surface between the two lateral surfaces, and <u>the outer surface defining two confined grooves spaced apart from each other; two elastic components disposed in the two confined grooves, respectively,</u>" then separately recites "wherein the linkage arm comprises <u>an opening in communication with **the confined groove** of the main body to allow **the elastic component** to pass through the opening and be disposed in **the confined groove**</u>." (emphases added). It is unclear whether the opening is in communication with both confined grooves, a single confined groove, or which confined groove (if a single groove is intended). It is further unclear whether the opening allows one or both elastic components to pass through. As written, claim 10 is confusing and "fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention," and is thus indefinite. *Nautilus,* 134 S. Ct. at 2124.

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VIII. ACCOMPANYING DOCUMENT PRODUCTION

Pursuant to Patent L.R. 3-4, Eoptolink is producing the following:

(a) Documentation sufficient to show the operation of the Eoptolink products accused of infringement in AOI's Patent L. R. 3-1 disclosures: EOPTO_0001836-1937.

(b) Copies of the prior art identified pursuant to Patent L.R. 3-3(a): EOPTO_0000001-1710.

(c) Copies of the prior art system EOLQ-161HG-10-L (100G QSFP LR4 (QL97099330)) identified pursuant to Patent L.R. 3-3(a): EOPTO_0001711-1835.

(c) All agreements that may be related to the accused instrumentality or may be comparable to a license that would result from a hypothetical reasonable royalty negotiation: No relevant or available documents.

(d) Documents sufficient to show the sales, revenue, cost, and profits for accused instrumentalities identified pursuant to Patent L.R. 3-1 for any period of alleged infringement: No relevant documents.

(e) All agreements that may be used to support the party denying infringement's damages case: No relevant or available documents.

Dated: August 18, 2025

Respectfully submitted,

PERKINS COIE, LLP

By: /s/ Arpita Bhattacharyya
Arpita Bhattacharyya
Attorneys for Defendant
Eoptolink Technology USA Inc.

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CERTIFICATE OF SERVICE

I am a citizen of the United States and employed in Santa Clara County, California. I am over the age of eighteen and not a party to the within-entitled action. My business address is 3150 Porter Drive, Palo Alto, California 94304. On August 18, 2025, I served a copy of the following document:

DEFENDANT EOPTOLINK TECHNOLOGY USA, INC.'S INVALIDITY CONTENTIONS

I caused the above document to be served on the parties in this action by transmitting the document via email to the addressees indicated below:

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I declare under penalty of perjury that the foregoing is true and correct. Executed on August 18, 2025 in Palo Alto, California.

Anna Freddie

Anna Freddie

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