

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ACCELIGHT TECHNOLOGIES, INC.,
&
EOPTOLINK TECHNOLOGY USA, INC.,

Petitioners,

v.

APPLIED OPTOELECTRONICS, INC.,

Patent Owner.

Case IPR2026-00019
Patent No. 9,448,367

PATENT OWNER'S PRELIMINARY RESPONSE

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EXHIBITS

Exhibit No.	Description
2010	Declaration of Dr. Alan E. Willner

I. INTRODUCTION

Patent Owner Applied Optoelectronics, Inc. (“AOI”) submits this Preliminary Response to the Petition of Accelight Technologies, Inc. (“Accelight”) and Eoptolink Technology USA, Inc. (“Eoptolink”) (jointly “Petitioners”) challenging the patentability of claims 1–9 (the “Challenged Claims”) of U.S. Patent No. 9,448,367 (the “’367 Patent”) (Exhibit 1001). The Director should deny institution because Petitioners have not established a reasonable likelihood that they will prevail on any claim in any Ground raised in the Petition.

Petitioners present four grounds of invalidity against the Challenged Claims.

In Ground 1, Petitioners challenge independent claim 1 and dependent claims 2 and 4–9 under an obviousness theory. Petitioners contend that claims 1, 2, and 4–9 are obvious over Anderl (U.S. Patent No. 7,458,733, Exhibit 1005) in view of Gaio (U.S. Patent No. 6,579,013, Exhibit 1006).

In Ground 2, Petitioners challenge dependent claim 3 under an obviousness theory. Petitioners contend that claim 3 is obvious over Anderl in view of Gaio, Ohki (Japan Patent Publication No. 2005-269474, Exhibit 1011 and Exhibit 1008 English Translation), and SFP Specifications (Exhibit 1009).

In Ground 3, Petitioners challenge independent claim 1 and dependent claims

2 and 4–9 under an obviousness theory. Petitioners contend that claims 1, 2, and 4–9 are obvious over Kim (U.S. Patent Publication No. 2009/0010600, Exhibit 1007) in view of Gaio.

In Ground 4, Petitioners challenge dependent claim 3 under an obviousness theory. Petitioners contend that claim 3 is obvious over Kim in view of Gaio, Ohki and SFP Specifications.

As set forth below and in the attached Declaration of Dr. Allen Willner (Exhibit 2010), Petitioners fail to show that the prior art references render obvious any of the Challenged Claims. Thus, Petitioners have not established a reasonable likelihood that they will prevail on any claim on any Ground raised in the Petition. Accordingly, AOI respectfully requests that the Director decline to institute *inter partes* review.

II. BACKGROUND

A. '367 Patent

The '367 Patent discloses a multi-channel optical transceiver that includes a multi-channel transmitter optical subassembly (TOSA), a multi-channel receiver optical subassembly (ROSA), and a dual fiber type direct link adapter directly linked to the multi-channel TOSA and the multi-channel ROSA with optical fibers.

See Exhibit 1001 at Abstract; *see also* Exhibit 2010 at ¶ 56.

The dual fiber type direct link adapter is also configured to receive pluggable optical connectors, such as LC connectors, mounted at the end of fiber-optic cables including optical fibers for carrying optical signals to and from the transceiver. The dual fiber type direct link adapter thus provides the optical input and output to the transceiver for the optical signals received by the ROSA and transmitted by the TOSA. *See id.*; *see also* Exhibit 2010 at ¶ 57.

Figures 4–7 of the '367 Patent discloses an embodiment in which the dual fiber type direct link adapter 250 includes an adapter body portion 260 defining first and second connector receiving regions 262, 264 at the pluggable connector end 254 and defining first and second slots 266, 268 at the direct link end 252. The first and second connector receiving regions 262, 264 are configured to receive the respective pluggable optical connectors 320, 330, such as LC connectors. The first and second slots 266, 268 are configured to receive respective direct link connector assemblies 270, 272, which are mechanically coupled to optical fibers (not shown) directly linking the TOSA and ROSA (not shown). An adapter cover portion 261 covers the slots 266, 268 and retains the direct link connector assemblies 270, 272. The direct link connector assemblies 270, 272 also include flange portions 274, 276 (shown in FIG. 7) that extend into receiving grooves 267, 269 in the respective

slots 266, 268 to prevent axial movement and hold the direct link connector assemblies in the slots. *Id.* at Col. 6:43-63; *see also* Exhibit 2010 at ¶ 58.

This is shown in Figure 7 as follows:

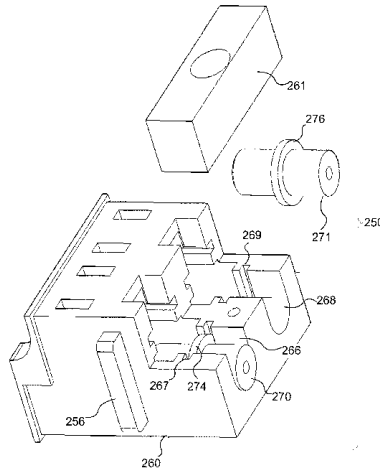


FIG. 7

And is further shown in Figures 4–6:

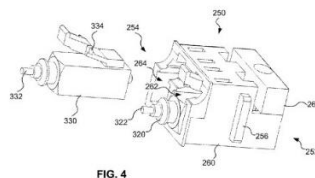


FIG. 4

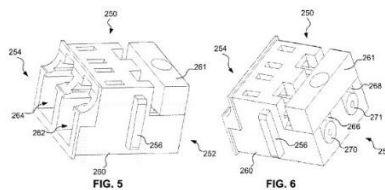


FIG. 5

FIG. 6

B. Relevant File History

Application no. 14/883,970 for the '367 Patent, entitled “Multi-Channel

Optical Transceiver Module including Dual Fiber Type Direct Link Adapter for Optically Coupling Optical Subassemblies in the Transceiver Module,” was filed on October 15, 2015, with one independent claim and three dependent claims, all depending from independent claim 1. *See* “’367 Patent File History,” Exhibit 1002. During prosecution, five additional dependent claims, again all depending from independent claim 1, were added. *See id.* at pp. 67–68; *see also* Exhibit 2010 at ¶ 60.

In allowing claims 1–9 in the Notice of Allowance, the Examiner specifically noted, “Independent Claim 1 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious a dual fiber type direct link LC adapter that comprises ***an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots, [see #261 in applicants figures 5-7]***... Dependent Claims 2-9 depend either directly or indirectly on Claim 1 and are thus also allowed.” *Id.* at p. 50 (emphasis in original); *see also* Exhibit 2010 at ¶ 61.

The ’367 Patent issued on September 20, 2016 with nine claims, including one independent claim. The ’367 Patent is a divisional of and claims priority to U.S. Patent No. 9,170,383 filed on December 10, 2012. *See* ’367 Patent (Exhibit 1001); *see* “File History”, Exhibit 1002; *see also* Exhibit 2010 at ¶ 62.

C. Prior and Pending Petitions for IPR Filed Against AOI Patents

In addition to this petition for IPR of the '367 Patent, Petitioner Accelight has also filed petitions for IPR of four other AOI patents: U.S. Patent Nos. 10,042,116 ("116 Patent"); 10,379,301 ("301 Patent"); 9,523,826 ("826 Patent"); and 10,788,690 ("690 Patent"). AOI has filed Requests to Director for Discretionary Denial of Petitioner Accelight's petitions for IPR of the '116, '301 and '826 Patents, all on grounds similar to those asserted in this Request.

In addition to this petition for IPR of the '367 Patent, Petitioner Eoptolink has also filed petitions for IPR of three other AOI patents, U.S. Patent No. 10,578,818 ("818 Patent"); U.S. Patent No. 10,714,890 ("890 Patent"); and U.S. Patent No. 11,177,887 ("887 Patent"). AOI will be filing Requests to Director for Discretionary Denial of Petitioner Eoptolink's petitions for IPR of the '818, '890, and '887 Patents on grounds similar to those asserted in this Request.

D. The Litigation Between AOI and Petitioner Accelight

On December 13, 2024, AOI filed a lawsuit against Petitioner Accelight for patent infringement entitled *Applied Optoelectronics, Inc. v. Accelight Technologies, Inc.*, case no. 4:24-cv-09041-HSG (N.D. CA) (the "Accelight Litigation"). The complaint alleges infringement of six AOI patents, including the '367 Patent. In the Accelight Litigation, Accelight alleges that each of the six patents-in-suit is

invalid. Accelight has filed petitions for IPR of five of the six patents.

On April 15, 2025, AOI served its infringement contentions, stating that Petitioner Accelight infringes claims 1–5 of the '367 Patent. On May 30, 2025, Petitioner Accelight served its invalidity contentions. *See* Exhibit 2003. Petitioner Accelight contends that claims 1–5 are invalid under either 35 U.S.C. § 102 or 35 U.S.C. § 103 on three grounds based on four different references.

Pursuant to the District Court's Scheduling Order, between May 30, 2025 and October 7, 2025, Petitioner Accelight served invalidity contentions and documents; the parties exchanged proposed terms for claim construction, preliminary constructions and extrinsic evidence, and damages contentions; and the parties filed a Joint Claim Construction Statement and Prehearing Statement, and opening, responsive, and reply claim construction briefs. *See, e.g.*, Exhibit 2004.

On October 9, 2025, the District Court granted the parties' joint motion to stay the case based on Petitioner Accelight's petitions for IPR. The Court ordered the parties to regularly file joint status reports, including after any PTAB decision on any of Petitioner Accelight's petitions for IPR. *See* Exhibit 2005.

E. The Litigation Between AOI and Eoptolink

On November 19, 2024, AOI filed a lawsuit against Eoptolink for patent infringement entitled *Applied Optoelectronics, Inc. v. Eoptolink Technology USA*

Inc., case no. 5:24-cv-08165-NW (N.D. CA) (the “Eoptolink Litigation”). The complaint alleges that Petitioner Eoptolink infringes six of AOI’s patents, including the ’367 Patent. In the Eoptolink Litigation, Eoptolink alleges that each of the six patents-in-suit is invalid. Eoptolink has filed petitions for IPR of four of the six patents.

On June 13, 2025, AOI served its infringement contentions, stating that Petitioner Eoptolink infringes claims 1–9 of the ’367 Patent. On August 18, 2025, Petitioner Eoptolink served its invalidity contentions. *See* Exhibit 2006. Petitioner Eoptolink contends that claims 1–9 are invalid under either § 102 or § 103 on four grounds based on five different references. The following ground asserted in district court by Petitioner Eoptolink is relevant here: Eoptolink has alleged in district court that the ’367 Patent is obvious over U.S. Patent Application Publication No. 2009/0010600 to Kim in view of U.S. Patent Application Publication No. 2005/0286839 to Yoshikawa. *See* Exhibit 2006, pp. 7–8.

F. The Petition for *Inter Partes* Review

On October 10, 2025, ten months after AOI filed its complaint in the Accelight Litigation and eleven months after AOI filed its complaint in the Eoptolink Litigation, Petitioners filed their Petition for IPR of the ’367 Patent.

In the Petition, Petitioners challenge claims 1–9 of the ’367 Patent. Petitioners asserts four grounds of invalidity: (1) Claims 1–2, and 4–9 are obvious

over Anderl (U.S. Patent No. 7,458,733, Exhibit 1005) in view of Gaio (U.S. Patent No. 6,579,013, Exhibit 1006); (2) Claim 3 is obvious over Anderl in view of Gaio, Ohki (Japan Patent Publication No. 2005-269474, Exhibit 1011 and Exhibit 1008 English Translation), and SFP Specifications (Exhibit 1009); (3) Claims 1–2, 4–9 are obvious over Kim (U.S. Patent Publication No. 2009/0010600, Exhibit 1007) in view of Gaio; and (4) Claim 3 is obvious over Kim in view of Gaio, Ohki and SFP Specifications.

On October 16, 2025, the PTAB issued its Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response (Paper 4).

AOI has timely filed Requests to the Director for Discretionary Denial of Petitioners' Petition for IPR of the '367 Patent (on December 16, 2025), and of Petitioner Accelight's Petitions for IPR of the '301 Patent (on December 4, 2025), the '116 Patent (on December 4, 2025), and the '826 Patent (on January 13, 2026). AOI has filed or will file will timely Requests to the Director for Discretionary Denial of Petitioner Eoptolink's Petitions for IPR of the '818, '890, and '887 Patents.

III. DEFINITION OF A PERSON OF ORDINARY SKILL IN THE ART

For the purposes of this Preliminary Response only, AOI applies Petitioners' proposed level of skill in the art: A person of ordinary skill in the art ("POSITA") knowledgeable of the technical field of the '367 Patent would have had "(1) a Bachelor's degree in electrical or electronic engineering or an equivalent degree, and (2) 2-4 years of work experience in optoelectronics, optical networking, optical communications, or a closely-related field." Exhibit 1003 at ¶39; *see also* Exhibit 2010 at ¶¶ 36–40.

AOI reserves the right to further address Petitioners' formulation of a POSITA if trial is instituted.

IV. CLAIM CONSTRUCTION

Petitioners assert "[n]o claim terms of the '367 patent require claim construction to resolve any disputes in this forum." Petition at p. 15. For purposes of this Preliminary Response only, AOI also asserts claim construction is not necessary to resolve the controversy presented by the Petition because Petitioners have not demonstrated a reasonable likelihood of prevailing on any Challenged Claim. *See, e.g.*, Exhibit 2010 at ¶¶ 64–66.

**V. PETITIONERS HAVE NOT ESTABLISHED A REASONABLE
LIKELIHOOD OF PREVAILING FOR ANY CHALLENGED CLAIM**

Petitioners bear the burden on institution of “demonstrating a reasonable likelihood that it will prevail in showing the unpatentability of at least one claim.” *SMIC, Ams. v. Innovative Foundry Techs., LLC*, IPR2020-00837, Paper 13, 13–14 (PTAB Oct. 9, 2020) (citing 35 U.S.C. §§ 314(a) and 312(a)(3)). In making this showing, Petitioners must identify “the evidence that supports the grounds for the challenge to each claim.” *Id.* Petitioners have not met that burden here.

Here, Petitioners have not shown a reasonable likelihood of success for any challenged claim under any ground of unpatentability. The Director should thus deny institution.

**VI. GROUND 1: PETITIONERS HAVE NOT SHOWN A REASONABLE
LIKELIHOOD THAT CLAIMS 1–2 AND 4–9 ARE OBVIOUS OVER
ANDERL IN VIEW OF GAIO**

A. Overview of Anderl (Exhibit 1005)

Anderl discloses a method of cooling an optical transceiver that is mountable in a wall opening and a method of cooling a data transfer system in combination with an optical transceiver is described. An optical transceiver is provided that has a form factor and one end portion that is insertable within a wall opening in a wall. Ambient air is ventilated over a major surface portion of the optical transceiver by

mounting said end portion to the wall opening so that at least one vent is formed within confines of the wall opening. The vent allows air to pass between the exterior and interior of the enclosure, and over the major surface portion of the optical transceiver. *See* Exhibit 1005 at Abstract; *see also* Exhibit 2010 at ¶ 67.

B. Ground 1

Petitioners and their expert, Dr. Lebby, have not shown that claims 1–2 and 4–9 of the '367 patent are invalid as rendered obvious by Anderl in view of Gaio. *See* Exhibit 1003 at ¶ 68.

1. Anderl in view of Gaio fails to disclose “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” as required by Claim 1 of the '367 Patent

Petitioners and Dr. Lebby have failed to show that Anderl in view of Gaio discloses at least the “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” as required by Claim 1 of the '367 Patent. *See* Exhibit 2010 at ¶ 68.

First, Petitioners and Dr. Lebby do not argue or assert that Gaio discloses this limitation. *See, e.g.*, Petition at p. 38-39; *see also* Exhibit 1003 at ¶ 83.

Petitioners and Dr. Lebby fail to show that Anderl discloses “an adapter cover portion configured to cover the first and second slots for retaining the direct

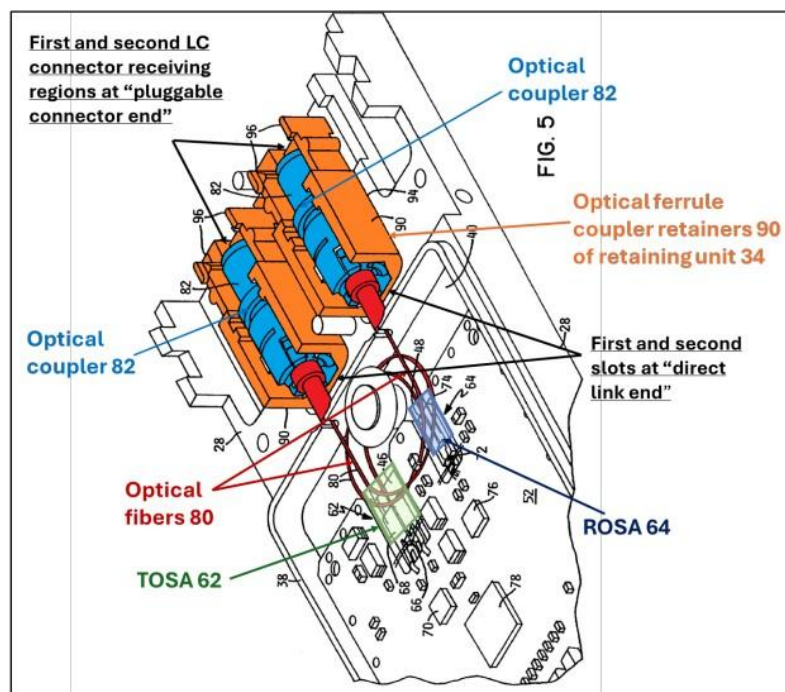
link connector assemblies in the respective slots” as required by Claim 1 of the ’367 Patent. *See* Exhibit 2010 at ¶ 71.

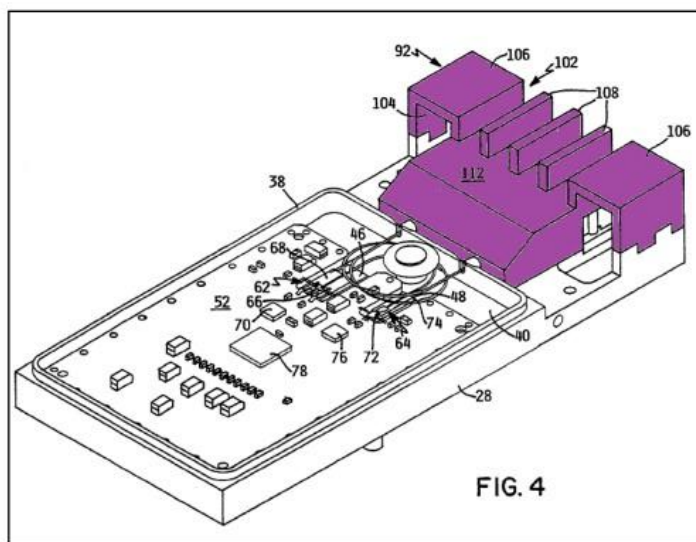
Petitioners and Dr. Lebby assert “Anderl discloses that direct link LC adapter (retaining unit 34) includes a cover portion defined by retainer cover member 92, which includes a hood portion 112.” Petition at p. 38; Exhibit 1003 at ¶ 83. However, hood portion 112 from Anderl does not “retain” the direct link connectors in their respective slots. Instead, hood portion 112 encloses the optical couplers 82 and is an EMI shield to improve signal quality. *See, e.g.*, Exhibit 1005 at Col. 7:45-49 (“The retainer cover member 92 includes a hood portion 112 that encloses the optical couplers and serves to reduce the EMI as well as enhance heat transfer in this region of the module.”); *see also* Exhibit 2010 at ¶ 72.

Moreover, Anderl does not disclose the cover portion 112 and retainer cover member 92 retaining the asserted direct link connector assemblies (optical fibers 80 and optical couplers 82) in their respective slots. Instead, the separate optical ferrule coupler retainers 90 are for retaining the optical couplers 82. *See* Exhibit 1005 at Col. 6:50–56 (“an optical retaining unit 34 comprises a pair of plastic optical ferrule coupler retainers 90 for removably retaining the optical couplers 82 and for being in covering relationship thereto a retainer cover member 92. Each of the optical ferrule coupler retainers 90 is mounted in a respective pocket 94 formed

on the carrier thereon.”); *see also* Exhibit 2010 at ¶ 73.

The separate optical ferrule coupler retainers 90 for retaining the optical couplers 82 are shown in and evident from Petitioners’ annotated Figures 4 and 5 from Anderl. Figure 5 shows the separate optical ferrule coupler retainers 90 are for retaining the optical couplers 82, while Figure 4 shows the cover member 92 with hood portion 112 are for enclosing and shielding the optical couplers 82. *See* Exhibit 2010 at ¶ 73.





Petitioners and Dr. Leiby seem to recognize this failure, and instead try to argue that “[i]t would have been obvious to a POSITA based on the disclosure of Anderl that the cover portion (retainer cover member 92) helps with retaining the direct link connector assemblies (optical couplers 82) in their respective slots.” See Petition at p. 38; Exhibit 1003 at ¶ 83. However, a POSITA would not necessarily have understood based on the disclosure of Anderl that the cover portion (cover member 92 and hood portion 112) is “for retaining the direct link connector assemblies [optical couplers 82 in Anderl as alleged by Petitioners] in the respective slots” as required by Claim 1 of the ’367 Patent. Anderl specifically discloses the separate optical ferrule coupler retainers 90 are for retaining the optical couplers 82. See Exhibit 1005 at Col. 6:50–56. Moreover, Anderl

specifically discloses the cover member 92 and hood portion 112 are for the separate function of enclosing the optical couplers 82 “to reduce the EMI as well as enhance heat transfer in this region of the module.” *See* Exhibit 1005 at Col. 7:45–49; *see also* Exhibit 2010 at ¶ 75.

Finally, Petitioners only argue “[i]t would have been obvious to a POSITA based on the disclosure of Anderl that the cover portion (retainer cover member 92) helps with retaining the direct link connector assemblies (optical couplers 82) in their respective slots.” *See* Petition at p. 38; Exhibit 1003 at ¶ 83. But, even if true, at most, Petitioners and Dr. Lebby only argue that Anderl discloses a cover portion that “helps to retain” the direct link connector assemblies, but is not necessarily configured for retaining it, as required by the limitation in claim 1. Indeed, the ’367 Patent makes clear “[a]n adapter cover portion 261 covers the slots 266, 268 and retains the direct link connector assemblies 266, 268.” Exhibit 1001 at Col. 6:56-58 (emphasis added); *see also* Col. 8:29-33 (“The dual fiber type direct link LC adapter further includes an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots.”); Figures 4–7 (showing the adapter cover portion abutting and covering the direct link connector assemblies in the slots at the direct link end to restrict a non-axial movement of the direct link connector

assemblies out of the slots). In other words, the adapter cover portion in the '367 Patent both covers the slots at the direct link end and additionally retains the direct link connector assemblies in the slots by abutting the direct link connector assemblies and restricting their non-axial movement out of the slots. Thus, a POSITA would not have necessarily understood based on the disclosure of Anderl that the cover portion (cover member 92 and hood portion 112) from Anderl is for both covering and retaining the direct link connector assemblies in their respective slots as required by Claim 1 of the '367 Patent. See Exhibit 2010 at ¶ 76.

Finally, such an approach using “general knowledge”—a broad category encompassing AAPA, expert declarations, common sense, and other non-patent or non-printed publication evidence—*cannot be used* to supply a missing claim limitation in an IPR. See Exhibit 2008 at p. 1, July 31, 2025 Memorandum from Acting Director Stewart (emphasis added). Thus, as here, if a prior art reference admittedly lacks a specific element, petitioners can no longer argue that a person of ordinary skill in the art (POSITA) would inherently understand or fill that gap based on background knowledge, and the IPR should be denied. See *id.* (“As a practical matter, enforcement of Rule 104(b)(4) means that applicant admitted prior art (AAPA), expert testimony, common sense, and other evidence that is not ‘prior art consisting of patents or printed publications’ (collectively, ‘general

knowledge’) may not be used to supply a missing claim limitation. Per 35 U.S.C. § 312(a)(4), the Board shall deny an IPR petition that fails to comply with Rule 104(b)(4).”).

Thus, Anderl does not disclose “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” as required by Claim 1 of the ’367 Patent. *See* Exhibit 2010 at ¶ 77.

2. Anderl and Gaio fails to disclose Claims 2 and 4–9

Claims 2 and 4–9 of the ’367 Patent depend from Claim 1. Because Petitioners and Dr. Lebby have not shown that Anderl and Gaio renders obvious Claim 1, Petitioners has also have not shown that Anderl and Gaio renders obvious Claims 2 and 4–9. *See* Exhibit 2010 at ¶ 78.

VII. GROUND 2: PETITIONERS HAVE NOT SHOWN A REASONABLE LIKELIHOOD THAT CLAIM 3 IS OBVIOUS OVER ANDERL IN VIEW OF GAIO, OHKI, AND SFP SPECIFICATIONS

Claim 3 of the ’367 Patent depends from Claim 1. Because Petitioners and Dr. Lebby have not shown that Anderl and Gaio renders obvious Claim 1, Petitioners has also have not shown that Anderl and Gaio renders obvious Claim 3. *See* Exhibit 2010 at ¶ 79.

**VIII. GROUND 3: PETITIONERS HAVE NOT SHOWN A REASONABLE
LIKELIHOOD THAT CLAIMS 1–2 AND 4–9 ARE OBVIOUS OVER
KIM IN VIEW OF GAIO**

A. Overview of Kim (Exhibit 1007)

Kim discloses a high-speed optical module, such as a transceiver or transponder. A fiber assembly including a receptacle, a fiber, and a modified connector are provided and enable an optical connection from inside of the optical component to outside of the component. Internally, the fiber assembly is detachable from an internal optical component. The optical component is connected to a PCB using a ball grid array. By detaching the fiber assembly, the optical component can be changed-out without damaging the fiber. The fiber is spooled inside the module to protect the fiber around a spooling assembly that is integrated with the receptacle holders that form part of the module's ports. *See* Exhibit 1007 at Abstract; *see also* Exhibit 2010 at ¶ 80.

B. Ground 3

Petitioners and Dr. Lebbby have not shown that Kim in view of Gaio renders invalid as obvious claims 1–2 and 4–9 of the '367 Patent; *see also* Exhibit 2010 at ¶ 81.

1. Kim in view of Gaio fails to disclose “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” as required by Claim 1 of the ’367 Patent

Petitioners and Dr. Lebby have failed to show that Kim in view of Gaio discloses at least the “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” limitation as required by Claim 1 of the ’367 Patent. *See* Exhibit 2010 at ¶ 82.

First, Petitioners and Dr. Lebby do not argue or assert that Gaio discloses this limitation. *See, e.g.*, Petition at p. 70–71; *see also* Exhibit 1003 at ¶¶ 115–117.

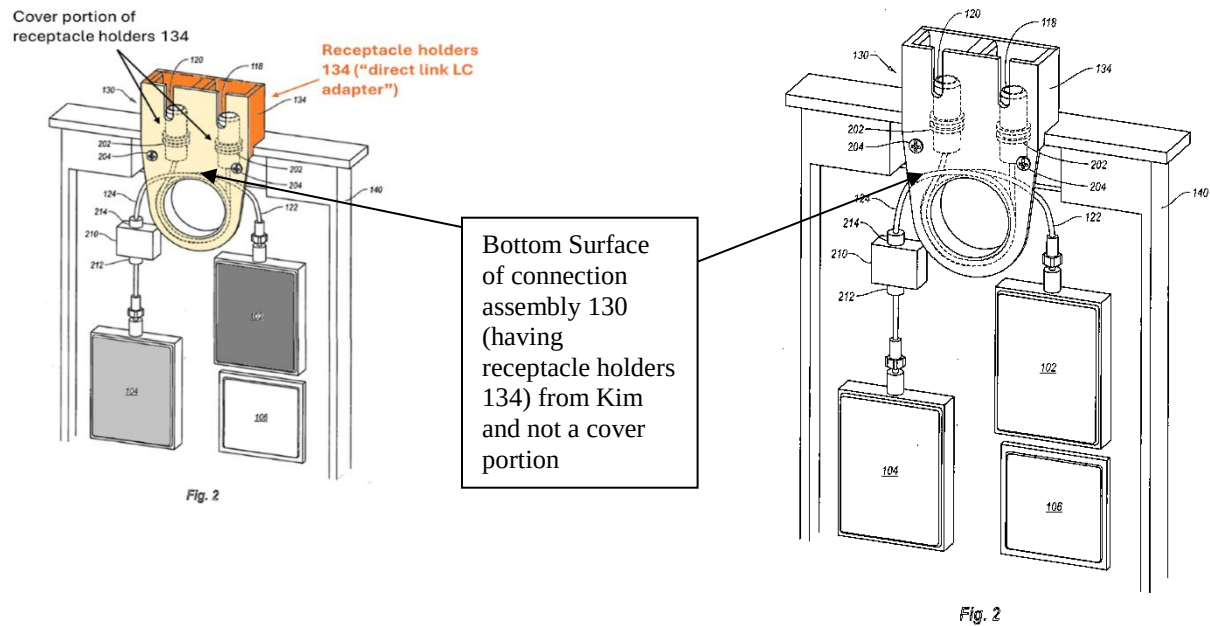
Petitioners and Dr. Lebby fail to show that Kim discloses “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” as required by Claim 1 of the ’367 Patent. Instead, Kim discloses “connection assembly 130 [which] also includes receptacle holders 134....to receive an optical connector such as an LC or SC connector.” *See* Exhibit 1007 (Kim) at ¶ 45; *see also* Exhibit 2010 at ¶ 84.

Petitioners and Dr. Lebby assert “Kim discloses that receptacle holders 134 (‘direct link LC adapter’) include a cover portion that covers the first and second slots for receiving direct link connector assemblies receptacles 118, 120,” and

further assert that Figure 2 from Kim “show[s] screws 204 attaching a cover portion of connection assembly 130 (having receptacle holders 134) to housing 140 of module 100.” See Petition at p. 70; see also Exhibit 1003 at ¶¶ 115. However, this is incorrect. See Exhibit 2010 at ¶ 85.

As an initial point, Petitioners and Dr. Lebby in their annotated Figure 2 from Kim seem to point to the bottom surface of the connection assembly 130 (having receptacle holders 134 and spool assembly 116 (see Exhibit 1007 (Kim) at ¶ 46)) in their annotated version of Figure 2 from Kim as the purported cover. However, this is not correct. Although not discussed or mentioned by Petitioners or Dr. Lebby, Figure 2 from Kim does appear to show an unidentified and unlabeled surface on the topside (other side) of receptacle holder 134. However, Kim does not describe this as a separate cover, and Petitioners do not seem to assert that it is. Further, what Petitioners do point to is also not a cover, but the bottom surface of connection assembly 130 and receptacle holder 134. This is evident by comparing

Petitioners' annotated Figure 2 from Kim with the actual Figure 2 from Kim. See Exhibit 2010 at ¶ 86.



This is also further supported by comparing Petitioners' annotated Figures 1 and 2 side by side. Figure 1 shows the open top side view of connection assembly 130 and receptacle holder 134. In contrast, Figure 2 shows the bottom side view of connection assembly 130 and receptacle holder 134. A POSITA would understand that these are opposite top and bottom views (i.e., Figures 1 and 2) of receptacle holder 134 by looking at the other elements in the two figures, such as the direction of the spool assembly 116, which is pointing towards the observer in Figure 1 and away from the observer in Figure 2. See Exhibit 2010 at ¶ 87.

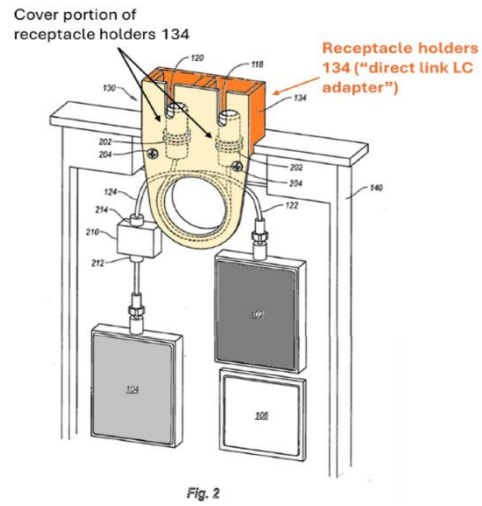
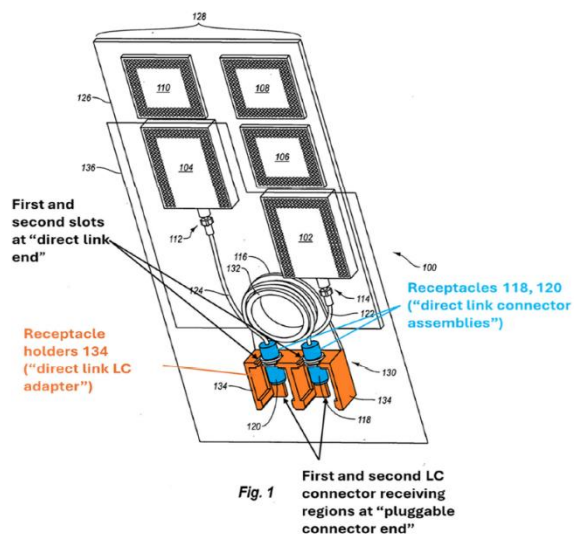
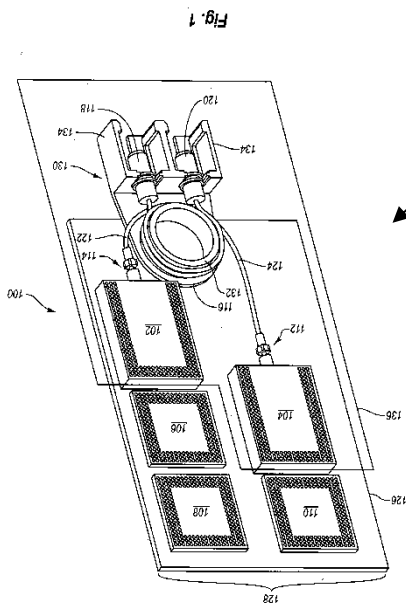
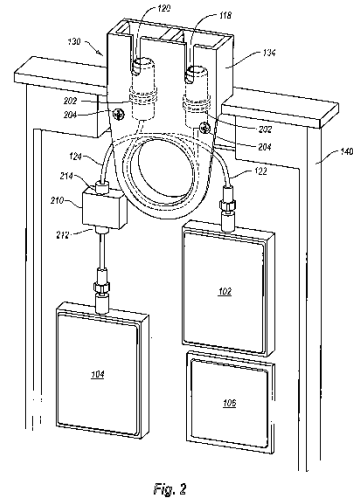


Figure 1 upside and show next to Figure 2 further evidence the opposite views of Figures 1 and 2 from Kim to a POSITA, as a POSITA would understand it by looking at the opposite orientation of items 102, 104, and 106 on module 100 in Figures 1 and 2. See Exhibit 2010 at ¶ 88.

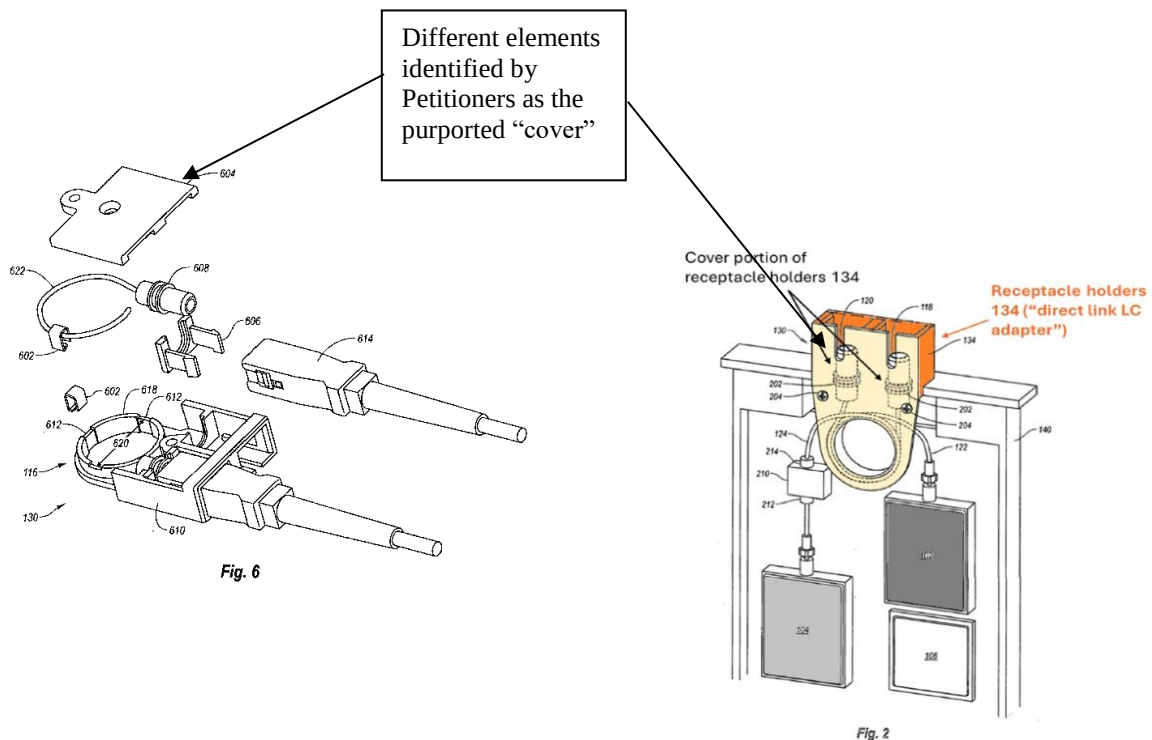


Figures 1 and 2 from Kim show opposite top and bottom views of module 100 and connection assembly 130.



Furthermore, Petitioners and Dr. Lebby are also not correct in their assertion of obviousness that Kim “show[s] screws 204 attaching a cover portion of connection assembly 130 (having receptacle holders 134) to housing 140 of module 100.” *See* Petition at p. 70; *see also* Exhibit 1003 at ¶ 115. In an important difference, Kim does disclose that the screws 204 are for attaching the entire connection assembly 130 (which includes the spool assembly 116 and receptacle holder 134 (*see* Exhibit 1007 (Kim) at ¶ 46)) to the housing 140 of the module 100. *See* Exhibit 1007 (Kim) at ¶ 48 (“The spool assembly 116 may be secured to the module via screws 204 (or other suitable connectors). In one example, the screws 204 secure the connection assembly 130 to the housing 140 of the module 100.”). Kim disclosing the screws 204 are for attaching the entire connection assembly 130 to the module 100 is clear from Kim, as Kim then next discusses other alternative ways to attach the connection assembly 130 to the module 100. *See id.* (“The connection assembly 130 may also be connected a press fit or other means. The connection assembly 130 may alternatively be connected to a top cover of the housing.”); *see also* Exhibit 2010 at ¶ 89.

Moreover, Petitioners and Dr. Lebby seem to point to two different structures for disclosing the claim element at issue. In one instance, they label the bottom surface of receptacle holders 134 as the purported “cover”. In another instance, Petitioners and Dr. Lebby point to “cover” 604 from a separate embodiment in Kim that “can be attached...[and that] may not cover the spool assembly 116, but may only cover the receptacles 610 and may connect with the receptacle holder 610.” See Petition at p. 71–72; see also Exhibit 1003 at ¶¶ 116. Figure 6 from Kim shows this separate cover 604 that can attach to the receptible holders in a different embodiment from Kim (shown below next to Petitioners’ annotated Figure 2 from Kim for comparison). See Exhibit 2010 at ¶ 90.



However, as can be clearly seen, the purportedly identified “cover” from Figure 2 is not the same as the cover 604 shown in Figure 6. It seems that Petitioners might recognize that each different identified purported “cover” is deficient. What Petitioners have identified in Figure 2 is not a cover, but instead is the bottom surface of the integrated connection assembly 130. *See, e.g.*, Exhibit 1007 (Kim) at ¶ 46 (“Often, the connection assembly 130 is integrated to reduce components. Thus, the receptacle holders 134 and the spool assembly 116 are a single piece that can be mounted to the housing of the module 100 and/or to the PCB 126.”). Moreover, with regards to the embodiment from Kim shown in Figure 6, the cover 604 is not configured to retain the identified direct link connector assemblies (receptacles 608) in their respective slots. Instead, Kim specifically discloses that “clip 606 holds the receptacle 608 in place relative to the housing of the module 100 such that the connector 614 can be repeatedly inserted/removed as needed.” *Id.* at ¶ 63; *see* Exhibit 2010 at ¶ 91.

Finally, Petitioners then argue “[a] POSITA would have understood based on the disclosure of Kim that the cover portion helps to retain direct link connector assemblies (receptacles 118, 120) in their respective slots.” *See* Petition at p. 72; *see also* Exhibit 1003 at ¶ 117. However, even if might, at most, Petitioners and Dr. Lebby only seem to argue that Kim discloses a cover portion that “helps to

retain” the direct link connector assemblies, but is not necessarily configured for retaining it, as required by the limitation in claim 1. Indeed, the ’367 Patent specification also makes clear “[a]n adapter cover portion 261 covers the slots 266, 268 and retains the direct link connector assemblies 266, 268.” Exhibit 1001 at Col. 6:56-58 (emphasis added); *see also* Col. 8:29–33 (“The dual fiber type direct link LC adapter further includes an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots.”). In other words, the adapter cover portion in the ’367 Patent both covers the slots at the direct link end and additionally retains the direct link connector assemblies in the slots. Thus, a POSITA would not have necessarily understood based on the disclosure of Kim that any cover or cover portion from Kim is for both covering and retaining the direct link connector assemblies in their respective slots as required by Claim 1 of the ’367 Patent. *See* Exhibit 2010 at ¶ 92.

Further, as noted, such “general knowledge” cannot be used to supply a missing claim limitation in an IPR. *See* Exhibit 2008.

Thus, Kim does not disclose “an adapter cover portion configured to cover the first and second slots for retaining the direct link connector assemblies in the respective slots” as required by Claim 1 of the ’367 Patent. *See* Exhibit 2010 at ¶ 93.

2. Kim and Gaio fails to disclose Claims 2 and 4–9

Claims 2 and 4–9 of the '367 Patent depend from Claim 1. Because Petitioners and Dr. Lebby have not shown that Kim and Gaio renders obvious Claim 1, Petitioners has also have not shown that Kim and Gaio renders obvious Claims 2 and 4–9. See Exhibit 2010 at ¶ 94.

IX. GROUND 4: PETITIONERS HAVE NOT SHOWN A REASONABLE LIKELIHOOD THAT CLAIM 3 IS OBVIOUS OVER KIM IN VIEW OF GAIO, OHKI, AND SFP SPECIFICATIONS

Claim 3 of the '367 Patent depends from Claim 1. Because Petitioners and Dr. Lebby have not shown that Kim and Gaio renders obvious Claim 1, Petitioners has also have not shown that Kim and Gaio renders obvious Claim 3. See Exhibit 2010 at ¶ 95.

X. RESERVATION OF RIGHTS

Should the Director decide to institute an *inter partes* review, AOI reserves all rights to make additional arguments in, and present claim constructions and evidence with, its Patent Owner Response. AOI's silence on any particular claim or limitation at this time is not a concession that the Petition's discussion of that claim or limitation is properly based. AOI also reserves the right to dispute the level of ordinary skill in the art if the Director decides to institute *inter partes*

review. Accordingly, AOI reserves the right to submit additional or alternative arguments of patentability, and nothing in this Preliminary Response acts or should be construed to act as an admission, acquiescence, or estoppel on the merits of the Petition.

XI. CONCLUSION

For the reasons set forth above, AOI respectfully requests that the Director deny institution of the Petition for all Challenged Claims of the '367 Patent.

Dated: January 16, 2026

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CERTIFICATE OF WORD COUNT

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the Microsoft Office word count including all footnotes for the foregoing Patent Owner's Preliminary Response, excluding the table of contents, table of authorities, certificate of word count, appendix and certificate of service, totals 5,504 words, which is less than the 14,000 words allowed under 37 C.F.R. § 42.24(b)(1).

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CERTIFICATE OF SERVICE

The undersigned hereby certifies service on the Petitioner, pursuant to 37 C.F.R. § 42.6(e) and by agreement of counsel, by electronic (e-mail) delivery of a true copy of the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE**, which was served on January 16, 2026 to the following Counsel for Petitioner via e-mail:

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