

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA OF AMERICA CORPORATION,
Petitioner,

v.

ALEXANDER SOTO AND WALTER SOTO,
Patent Owners.

IPR2023-00960
Patent No. 8,238,754

PATENT OWNERS' SUR-REPLY

Table of Contents

I.	Petitioner Abandons Its Own, Undefendable “With Switch” Theory	1
II.	Petitioner’s Defense of its “Without Switch” Theory Still Fails.....	1
III.	Petitioner’s New Evidence Reinforces the Lack of a Reasonable Expectation of Successfully Shrinking Parts of an ONT	3
IV.	Petitioner Impermissibly Asserts New Theory Because Original Theories Had Defects	6
V.	Petitioner’s New Proposal Still Suffers Fatal Defects.....	10
	A. Petitioner’s new theory is still vague and inconsistent.....	10
	B. Petitioner’s new theory of “Separating Shraga’s switch from the PON-specific functions” still has problems.....	11
VI.	Petitioner Has No Rebuttal To Dr. Willner’s Combination	13
VII.	Petitioner’s Motivations Do Not Support Its Combination.....	13
VIII.	Dr. Willner Provided Reliable Testimony	16
IX.	The Petition Still Has No Theory for Claim [1.D].	18
X.	The Petition Still Has No Theory for Claim 18.....	19
XI.	Other Various Rebuttals	19
XII.	Conclusion.....	20

Table of Authorities

Cases

<i>Allied Erecting v. Genesis Attachments, LLC</i> , 825 F.3d 1373 (Fed. Cir. 2016)	5
<i>Dynaenergetics Eur. Gmbh & Dynaenergetics US, Inc. v. Swm Int'l, LLC</i> , No. IPR2022-01372, 2024 WL 422604 (P.T.A.B. Feb. 5, 2024)	8, 9
<i>Intel Corp. v. Pact XPP Schweiz AG</i> , No. 2022-1038, 2023 U.S. App. LEXIS 4436 (Fed. Cir. Feb. 24, 2023).....	5
<i>Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.</i> , 821 F.3d 1359 (Fed. Cir. 2016)	8
<i>Yita LLC v. MacNeil IP LLC</i> , 69 F.4th 1356 (Fed. Cir. 2023).....	8

Statutes

37 C.F.R. § 42.23(b)	6
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PATENT OWNERS' EXHIBIT LIST

Exhibit	Description
2001	Email from PTAB, dated July 20, 2023
2002	Chain of Emails Between Counsel for Nokia and Special Appearance Counsel for Patent Owners, Redacting the Username and Password
2003	Excerpt of JOSEPH W. GLANNON, <i>Civil Procedure, in</i> EXAMPLES & EXPLANATIONS (Aspen Publishers, 6th ed. 2008).
2004	Transcript of August 23, 2023 Teleconference Hearing
2005	U.S. Pat. Pub. No. 2002/0067529 to Yokomoto et al. (“Yokomoto”)
2006	U.S. Pat. Pub. No. 2002/0006111 to Akita et al. (“Akita”)
2007	U.S. Pat. Pub. No. 2003/0091045 to Choi et al. (“Choi”)
2008	U.S. Pat. No. 5,572,349 to Hale et al. (“Hale”)
2009	U.S. Pat. Pub. No. 2004/0052274 to Wang et al. (“Wang”)
2010	U.S. Pat. No. 7,031,343 to Kuo et al. (“Kuo”)
2011	U.S. Pat. No. 6,023,467 to Abdelhamid et al. (“Abdelhamid”)
2012	U.S. Pat. No. 6,498,667 to Masucci et al (“Masucci”)
2013	U.S. Pat. No. 6,778,339 to Medina et al. (“Medina”)
2014	Excerpt of Plaintiff NextGen Innovations, LLC’s Responses to Defendants’ First Set of Common Interrogatories
2015	U.S. Pat. No. 7,925,162 to Soto et al.
2016	Declaration of Andrew D. Weiss in Support of Motion to Appear <i>Pro Hac Vice</i>
2017	Declaration of Paul A. Kroeger in Support of Motion to Appear <i>Pro Hac Vice</i>

2018	Declaration of Benjamin T. Wang in Support of Motion to Appear <i>Pro Hac Vice</i>
2019	Transcript of April 22, 2024 Teleconference Hearing
2020	Claim Construction Order from <i>NextGen Innovations, LLC v. Fujitsu Network Communications, Inc.</i> , No. 2:22-cv-00307-JRG-RSP (E.D. Tex. Dec. 22, 2023).
2021	Transcript from the Deposition of Dr. Prucnal in IPR2023-00960 (June 29, 2024).
2022	Public File History of Application 60/485,072
2023	Opening Expert Report of Dr. Paul Prucnal Regarding Invalidity of U.S. Patent No. 8,238,754 from <i>NextGen Innovations, LLC v. Nokia of Am. Corp.</i> , No. 2:22-cv-00309-JRG-RSP (E.D. Tex.)
2024	Email from Nokia's counsel agreeing to de-designate confidentiality of Exhibit 2023.
2025	Data Sheet for Motorola ONT6000 GPON ONT for Multi-Dwelling Unit, available at https://www.broadbandsoho.com/PDF/Datasheet_ONT6000GVT.pdf (accessed June 30, 2024)
2026	Data Sheet for Motorola AXS1800 GPON Optical Line Terminal, available at https://www.klonex.com.pl/media/produkty/pdf/motorola-axs1800.pdf (accessed June 30, 2024).
2027	Public File History of Application 60/515,836
2028	Demonstrative Exhibit PRUCNAL009 from the Deposition of Dr. Prucnal in IPR2023-00960 (June 29, 2024).
2029	U.S. Pat. No. 10,771,181 to Soto and Soto.
2030	Rebuttal Expert Declaration of Dr. Willner, <i>Nokia of Am. Corp. v. Alexander Soto and Walter Soto</i> , IPR2023-00960 (July 9, 2024).

2031	Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019).
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I. Petitioner Abandons Its Own, Undefendable “With Switch” Theory

As addressed in the POR, the Petition lacked a theory of how Shraga would actually be combined with the pluggable of Togami. Paper 34 at 32–35, 49–52. The Petition never argued that the switch 64 of Shraga would be excluded from a combination into Togami’s pluggable. Petition at 18–34; Paper 19 at 48. Instead, Petitioner *repeatedly highlights Shraga’s switch* as the claimed “switch” element. Petition at 32–33, 48. In deposition, Dr. Prucnal repeatedly testified it was one of **his** alternative theories was “that the pluggable also has a switch inside of it.” Ex. 2021 at 95:4–14, 97:4–21, 99:2–100:25, 121:1–11, 122:12–124:18. When Dr. Prucnal was asked to confirm that Ex. 2028, showing a separate switch, accurately reflected his proposed combination, and he clarified that “there are two possibilities the other one being that the Switch 64 is also included in Togami’s module.” *Id.* at 99:2–100:25. Petitioner’s Reply now appears¹ to distance itself from the undefendable “with switch” combination after Patent Owner’s Response exposed how ridiculous this hindsight combination is. Paper 34 at 20–22, 24–26; Ex. 2021 at 105:5–106:13 (admitting to not knowing details).

II. Petitioner’s Defense of its “Without Switch” Theory Still Fails

Part of Petitioner’s Reply appears to argue that a CLU in Togami’s SFP can

¹ Heading C of the Petitioner’s Reply proposes to “place Shraga’s ONT functionality [which includes the switch] in a pluggable.” Paper 38 at 12.

in fact control Shraga's switch. Paper 38 at 7, 10. It is undisputed that Shraga's switch must be controlled by the CLU, and they must be electrically coupled together. Ex. 2021 at 70:19–71:8, 117:5–11; Ex. 1003 ¶ 141; Ex. 2030 ¶¶ 76, 115–116.

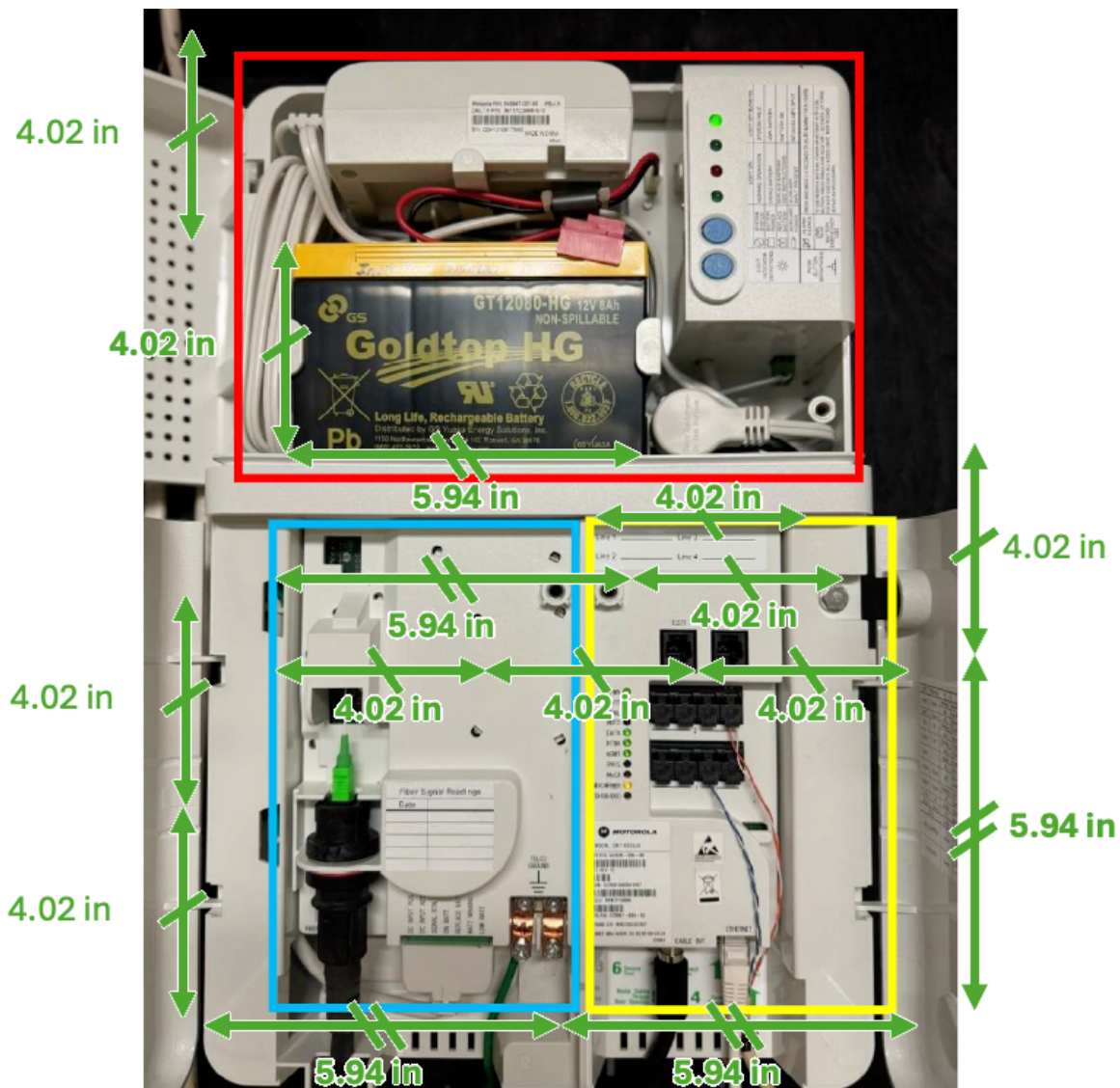
Dr. Willner explained that a POSITA would not have been motivated to use a CLU in Togami's pluggable to control a separated switch because "there are no unused pins that would be available to use for CLU control signals" for controlling the switch. Ex. 2030 ¶ 76. In response, Petitioner's Reply cites to the section of the SFP MSA referring to "Timing Requirements of Control and Status I/O" that show "control and status lines" of the electrical interface. Paper 38 at 10–11 (citing Ex. 1016.25, Ex. 1040, 112:3–7, and Ex. 1041 ¶ 21). Petitioner's argument is wrong, and Petitioner relies on misleading evidence. The cited evidence proves these are control and status line that have already been allocated for "timing requirements" for internal processes within the SFP. Ex. 1016 at 1016.024-25 *et seq.* These are not unused, external control lines that an internal SFP CLU can use to control a switch external to the SFP. *Id.* Dr. Prucnal does not assert otherwise. Ex. 1041 ¶ 21.

At the end of the day, the reserved timing pins of an SFP cannot be used to control an external switch as Petitioner proposes. It remains unrebutted that a POSITA would not have expected to be able to use a CLU in Togami's SFP to control Shraga's switch due to the lack of available pins, while remaining in

compliance with the SFP standard.

III. Petitioner's New Evidence Reinforces the Lack of a Reasonable Expectation of Successfully Shrinking Parts of an ONT

Petitioner improperly raises new evidence on Reply: pictures of a Motorola ONT1000GJ4 installed at Dr. Prucnal's house in 2007. Ex. 1041 at 15–16. This is evidence that Motorola's engineers did not find it obvious to fit the components in the blue and/or yellow boxes into a pluggable form factor in 2007.



Ex. 1041 at 17 (annotated by Petitioner and further annotated in **green** by Patent Owners). Using known dimensions (5.94x4.02 inches) of the GT12080-HG battery for reference, the ONT1000GJ4 is about 18 inches tall and just under 1 foot wide.² Dr. Prucnal’s statement that “[t]he ONT1000GJ4’s size is approximately, in totality, 290x104mm” (11.41 x 4.09 inches) is demonstrably false,³ and his subsequent opinions based thereon are unreliable (or false). Ex. 1041 at 17–18.

Without disassembling the device and without including a ruler, Dr. Prucnal drew colored boxes on the device (*id.* ¶ 33) and used the wrong overall size to estimate the size of “the PON data communications functionality and components” to be 120x40mm (4.72x1.57 inches) with no justification—a size still substantially larger than Togami’s SFP. *Id.* ¶ 34. Each of the blue and yellow boxes drawn by Petitioner are actually about 10 by 5 inches, and collectively about 10 by 10 inches (254x254mm). For reference, the largest dimensions of the SFP module are 56.5 by 13.7 mm (2.23 by 0.54 inches). Ex. 2030 ¶ 55.

Petitioner argues that caselaw does not require Petitioner’s proposed

² Patent Owners sought to submit size evidence including screenshots from the video available at <https://www.youtube.com/watch?app=desktop&v=6AghCOVGeUQ>, and the dimensions of the GT12080-HG battery posted on Amazon, available at <https://www.amazon.com/GS-BATTERY-GT12080-HG-Replacement-Centurylink/dp/B0088PCWL4>, shown to be “5.94 x 2.59 x. 4.02 inches.” Petitioner opposed. The evidence is not filed because the Board denied leave. Ex. 3009.

³ Unless he is providing the shorter width and the unpictured thickness dimensions, in which case it is intentionally misleading.

combination to be physically possible or to physically conform to the claim requirement of being “pluggable.” Petition at 14–15. This argument misses the mark in four ways. First, if the proposed modification does not result in a pluggable form factor device, then Petitioner fails to invalidate the “pluggable” claim limitation. MPEP § 2143.01 (“All claim limitations must be considered” in obviousness combinations). Second, if the proposed modification cannot fit into the SFP, then all of the benefits of SFP-based standardization will be lost, so Petitioner’s proposed motivations are inapplicable. Third, caselaw requires a reasonable expectation of success. MPEP § 2143.02 (citing cases). Fourth, Petitioner’s cases are distinguishable and inapplicable. Neither *Intel Corp. v. Pact XPP Schweiz AG* nor *Allied Erecting v. Genesis Attachments, LLC* overrules the requirement of a reasonable expectation of success, and neither case dealt with a claim that explicitly recites a form factor or size restriction like “pluggable.” No. 2022-1038, 2023 U.S. App. LEXIS 4436, at *2–4, 8 (Fed. Cir. Feb. 24, 2023); 825 F.3d 1373, 1381 (Fed. Cir. 2016). Rather, the cases affirm that “evidence that the teachings and concepts of the prior art were (either actually or apparently) incompatible such that a skilled artisan would not have reasonably expected to succeed in combining those teachings is relevant to the obviousness analysis.” *Intel Corp. v. Pact XPP*, 2023 U.S. App. LEXIS 4436, at *8. To be clear, the Board need *not* explicitly decide whether a large ONT could *actually* be shrunk down to the size of an SFP. Instead, the Board should

find that a POSITA would not have reasonably expected to succeed at the task, so there was no motivation to attempt it.

IV. Petitioner Impermissibly Asserts New Theory Because Original Theories Had Defects

Dr. Prucnal's new, 20-page, 37-paragraph declaration and the tens of pages dedicated to the argument in the Reply improperly advances a brand-new theory to split up Shraga's CLU. 37 C.F.R. § 42.23(b) (prohibiting new arguments). Petitioner continues to use improper hindsight to craft new theories because Petitioner's original theories failed.

The entirety of Petitioner's original theory was "to combine the optical transceiver module of Togami with the optical network data communications system of Shraga to create a pluggable optical transceiver module for use in transmitting data communications over a passive optical network," with no further explanation and no mention of splitting up CLUs. Petition at 18–19; Paper 19 at 48; Paper 38 at 2–3. It is undisputed that Shraga's Figure 1 shows Shraga's "Passive Optical Network" including both the switch (addressed above) and CLU (addressed here). Ex. 1005 at 6:55–57, Fig. 1. The Petition **highlighted** and relied on Shraga's **entire** CLU and makes **no mention** of "separating" out the CLU's functionality. Petition at 18–21, 28–32. Similarly, Dr. Prucnal's original opinion was not to split out certain functionality out of Shraga's CLU; rather it was that "the switch operates according to 'controlling signals received from [the] CLU. . . . for the switch in Shraga to

operate according to controlling signals from the CLU, it must have been electrically coupled to the switch.” Ex. 1003 at 142 (also highlighting entire CLU and providing no “split the CLU functionality” theory); Ex. 2021 at 86:16–88:4 (explaining the combination is to “be carrying out the duties of the CLU,” with no mention of separating out switching control duties). The Petition had no theory about splitting up the CLU functionality into two different chips.

Patent Owners’ Response argued that a POSITA would not have reasonably expected to succeed in 1) including Shraga’s switch in Togami’s pluggable due to size, and 2) separating Shraga’s switch from the CLU because the CLU would no longer control the switch that needed to be controlled, as both Dr. Prucnal and Dr. Willner opined must be the case. *Id.*; Ex. 2021 at 70:19–71:8; Ex. 2030 at 25, 43. Petitioner appears to acknowledge these problems, so Petitioner now forms a new combination using hindsight gained from Patent Owners’ Response. The original theories are not obvious.

Specifically, Petitioner now argues that it would have been obvious to further “separate”⁴ the functionality of Shraga’s CLU into its “PON- or ONT-related components.”⁵ *E.g.*, Reply at 5–12. This new argument should not be considered by

⁴ The word “separate” and its variants used in the headings of Reply at 5 never appear in the Petition’s discussions of the independent claims or motivation to combine.

⁵ Petitioner still does not describe *how* to do this, nor does Petitioner explain why controlling Shraga’s switch and/or ONT are not a part of the PON.

the Board. *Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1366–67 (Fed. Cir. 2023) (upholding the Board’s decision to not consider an argument that provided a “meaningfully distinct contention” such as changing from an argument of disclosure to obvious to modify; citing *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1370 (Fed. Cir. 2016)); *Dynaenergetics Eur. GmbH & Dynaenergetics US, Inc. v. Swm Int’l, LLC*, No. IPR2022-01372, 2024 WL 422604, at *14–16 (P.T.A.B. Feb. 5, 2024) (attempts to change the Petition, including by substantially modifying an “obvious to change” argument, “undermines [the Petition’s] credibility and reinforces our finding that Petitioner’s reasoning is biased by hindsight”). And, without this argument, the Petition should be rejected because Petitioner has not met its burden.

Petitioner’s new argument still fails to address the fundamental issue: Dr. Prucnal opined that “a POSITA would not inherently know how to make the ‘control module’ of the claimed optical transceiver pluggable,” let alone all of the additional functionality of Shraga that Petitioner now argues would have been obvious to include inside Togami’s pluggable form factor. Paper 34 at 25–26 (citing Ex. 2023 ¶¶ 906, 910). Petitioner and Dr. Prucnal still have not explained how it would have been obvious to adapt Shraga’s CLU to the size, heat, power, and other practical limitations of a Togami pluggable form factor, yet they now further argue that a POSITA would have found it obvious to redesign Shraga’s CLU to somehow

separate switch control functionality from “PON-related” functionality (which, as explained in the next section, makes no sense).

Petitioner attempts to explain that Dr. Prucnal’s contradictory opinion was “born out” of the Soto Brothers’ deposition testimony about a failure to prototype the invention, implying irrelevant and meritless⁶ enablement disputes not at issue in this IPR. Paper 38 at 18. But it remains that Dr. Prucnal provides the independent and contradictory opinion that he would “not expect a POSITA to know how to [make the claimed “control module” in a pluggable package] in the early 2000s.” Ex. 2023 ¶ 907; *see also id.* ¶ 910 (“a POSITA would not have been able to utilize the alleged invention”). Regardless of whether Dr. Prucnal uses mischaracterized deposition testimony to support his opinion about enablement, Dr. Prucnal (and Petitioners) are clear that they believe, even with the benefit of teaching of the ’754 Patent, “POSITA would not inherently know how to make the ‘control module’ of the claimed optical transceiver pluggable.” Ex. 2023 ¶¶ 906, 910. Dr. Prucnal’s contradictory opinion now, that not only was the invention was obvious but that a POSITA would have further known to make substantial changes to Shraga’s CLU module, deserves little or no credibility. Petitioner’s attempt to run from the record is further evidence of hindsight, as addressed in *Dynaenergetics*. No. IPR2022-

⁶ Petitioner’s Reply omits that the failure to prototype was due to lack of funding. Ex. 2023 ¶ 899, 908.

01372, 2024 WL 422604, at *14–16.

V. Petitioner’s New Proposal Still Suffers Fatal Defects

A. Petitioner’s new theory is still vague and inconsistent

The Petition failed to specifically articulate how a POSITA would have modified Togami in view of Shraga. Petition at 18–19; Paper 34 at 10. Patent Owners criticized Petitioner for failing to show the actual resulting device, and Petitioner’s Reply still fails to show or describe it. Paper 14 at 11.

Petitioner’s Reply argues that its theory has always been “to combine the optical transceiver module of Togami with the optical network data communications system of Shraga.” Paper 38 at 2–3. “For avoidance of doubt, Petitioner’s combination of Shraga with Togami involves the inclusion of PON functionalities present in the Shraga ONT onto the Togami pluggable optical transceiver module.” Paper 38 at 2.

All of Shraga Figure 1 is the passive optical network (PON), so everything therein performs PON-related functionality, including the switch 64 and the entire CLU. Ex. 1005 at 6:55–57, 7:17-18. Petitioner’s new, hisndsight idea of “separating the PON- or ONT-related components from the non-PON-related components,” makes no sense. Paper 38 at 5. Neither the Petition nor the Prucnal Declaration identify “non-PON-related components” of Figure 1 to be separated. Petition; Ex. 1003. They could never have done so because everything in Shraga’s Figure 1 makes

up the passive optical network (PON) including the entire switch and entire CLU, so no “non-PON-related” components or functionality in Figure 1 can be separated. Ex. 1005 at 6:55–57, 7:17-18. Likewise, both Shraga’s CLU and switch 64 are part of Shraga’s ONT, so it is unclear what Petitioner means by newly proposing to separate these “ONT-related” components/functionality. Paper 38 at 5; Ex. 1005 at Fig. 1. These new phrasings make no sense.

Even if it made sense, Dr. Prucnal never envisioned modifying Shraga’s CLU to separate out any PON or non-PON functionality. Ex. 2021 at 97:5–21 (“I wouldn’t describing it as modifying Shraga’s network”). If anything, Dr. Prucnal explicitly testified that this theory was “not just taking the CLU out of Shraga and putting it into Togami” but somehow integrating it into Togami to be “carrying out the duties of the CLU.” Ex. 2021 at 87:8–88:4. Dr. Prucnal also clarified that it was **not** this theory to duplicate Shraga’s functionality in Togami. Ex. 2021 at 89:5–90:4.⁷

B. Petitioner’s new theory of “Separating Shraga’s switch from the PON-specific functions” still has problems

Petitioner newly argues in its Reply to separate the Shraga CLU functionality into multiple CLUs, where some of it is moved “from one control logic (in Shraga’s box) to the other (Togami’s pluggable).” Paper 38 at 10. Petitioner’s Reply assumes that Togami had control logic to begin with. It does not, as confirmed by Dr. Prucnal.

⁷ Any theory of duplicating components or functionality goes against the cost saving motivation.

Ex. 1007; Ex. 2021 at 86:16–87:3. Neither the Petition nor its Reply cited any part of Togami as disclosing “control logic.” *See* Ex. 1001 at Fig. 11 (showing parts in prior art optical modules like Togami’s SFP).

Beyond this, there is no explanation of how “PON-specific functions” can be separated out of Shraga’s CLU. Petitioner fails to even identify what these “PON-specific functions” *are*. Patent Owners’ best understanding is that Petitioner now proposes to separate and move some of the processing functionality of Shraga’s CLU (unclear which specific parts) into Togami’s SFP. If anything, Petitioner’s proposal would degrade CLU performance (if not make it inoperable) because now two CLUs (one in Togami’s pluggable, and one in Shraga’s ONT) will need to communicate across the SFP interface. The SFP interface lacks spare pins for inter-CLU communication. Ex. 2030 ¶ 76. Even if the SFP interface had the pins, an SFP interface was limited to about 1Gb/s for data (Ex. 1012 at Table 3)—a far slower speed than what is possible within Shraga’s original, integrated CLU limited only by the speed of integrated silicon.

Petitioner provides no explanation of how to split any functionality of Shraga’s CLU into two CLUs. In addition to the critical job of controlling the switch (Ex. 2021 at 70:19–71:8), Shraga’s CLU plays an important role in the bandwidth allocation process in accordance with service level agreements, as illustrated in Shraga’s Figure 8. Ex. 1005 at Fig. 8 and 15:37–16:35. When bandwidth is changed,

the ONT CLU 36 (in the OLT) will “send parameter changes to ONTs,” and the ONT CLU 46 (in the ONT) will then “replace primary tables” in memory and “update FIFO tables” in the ONT, to implement the bandwidth changes. *Id.* at Fig. 8, 16:25–35. Petitioner has not given a reason to make two CLUs coordinate bandwidth management over the very communication channel whose bandwidth they are managing. Petitioner never identified any memory tables in Togami’s SFP that can be modified if part of Shraga’s CLU were implemented in Togami’s SFP. Petitioner has not explained which parts of Figure 8 it believes must be performed by a CLU in Togami’s SFP as opposed to a CLU in Shraga’s ONT. Petitioner has not explained how the two CLU’s would coordinate the FIFO blocks, which are directly connected to the switch, when the CLUs are split into different devices.

VI. Petitioner Has No Rebuttal To Dr. Willner’s Combination

It remains un rebutted that a POSITA in possession of Togami and Shraga would have, at most, thought to use Togami’s pluggable in place of only the optical-electrical converter interface in Shraga’s device. Paper 34 at 22–24. Petitioner admits it did not advance this theory in the Petition. Paper 38 at 5 n.1. However, after Dr. Willner raised it as the only feasible combination, Petitioner has no rebuttal against it. Ex. 2030 ¶¶ 85–89.

VII. Petitioner’s Motivations Do Not Support Its Combination

As explained in the POR, the motivations identified by Petitioner (e.g.,

smaller, replaceable) are generally motivations to use Togami's **unmodified** SFP transceiver. Paper 34 at 26–31. A POSITA would have had no motivations to create the complex, claimed device contrary to the trend in the industry at the time. Ex. 1001 at 2:11-20. None of Petitioner's motivations are reasons to "separate" Shraga's CLU into two different chips. *See* Paper 38 at 12 (stating in heading "C" that the motivation is to "place Sharga's ONT functionality in a pluggable," not to "separate CLU functionalities"). For example, Petitioner argues for lower costs, but is illogical hindsight to incur the great expense of redesigning and refabricating Shraga's CLU to keep only "non-PON" functions, to then design and fabricate a new CLU to separately perform "PON" functions, instead of reusing the existing CLU that does not need any redesign. None of Petitioner's motivations demonstrate an expectation of successfully implementing the functionality of the 425x305mm Motorola ONT6000GVT or the 254x254mm blue and yellow box functionality of the ONT1000GJ4 into a 56x13.7mm SFP.

Petitioner's new (and improperly late) proposed motivations do not cure these defects. First, Petitioner argues there was a need for "for seamless and uncomplicated replacement of the device" when upgrading a device like the Motorola ONT1000GJ4 in Dr. Prucnal's house. Paper 38 at 13. There is no evidence that Motorola ever believed it would have been difficult to swap out the wall-mounted ONT1000GJ4 with an upgraded version a few years later. More

importantly is there no evidence that Motorola ever envisioned or desired to separate the processor therein to allow for the later upgrade of only part of the processor without replacing the other processor, the battery, or other supporting technology. Processors can be easily upgraded by taking them out of their sockets and putting in a new processor, assuming their pins fit the same socket. This was never a real problem. Motorola was not motivated in 2007.

Petitioner continues to argue that its proposed combination would “conform with industry standard” and “cut down on manufacturing costs.” Paper 38 at 13. Petitioner continues to improperly assume that it would be able to comply with the SFP specification rather than fall into non-compliance due to size, power, and heat requirements, and Petitioner fails to address these problems head-on. Petitioner still has no evidence of pre- and post-combination costs.

The un rebutted evidence from third parties (like Motorola’s ONT1000GJ4 and ONT6000GVT) shows that the industry was happy with devices many times the size of Togami’s SFP, and they were not motivated to make Petitioner’s proposed modifications, even by 2007. Indeed, as Dr. Prucnal sets out, the devices at the time were designed to be bolted to houses and size was not a deterrent or motivator as Petitioner now attempts to argue. Third-party investors, who had their money on the line, declined to fund the Soto Brothers’ prototype. Ex. 2023 ¶¶ 899, 908. Neither investors nor Motorola had financial or business incentives to make the claimed

invention by 2007.

Moreover, the new evidence shows that Petitioner’s “port density” motivation was made in hindsight. Petition at 21. Like Shraga’s ONT, Dr. Prucnal’s newly presented ONT shows that there is one fiber input. Ex. 1041 at 17. This is because these fiber connections are upstream connections (e.g., to a single internet service provider). *See* Ex. 1012 at Fig. 1 (showing single uplinks in GPON and EPON networks). Port density is not a concern when there is only 1 port.

VIII. Dr. Willner Provided Reliable Testimony

Petitioner advances two reasons to disregard Dr. Willner’s testimony, both of which should fail. First, Petitioner argues that Dr. Willner’s declaration does not comply with 37 C.F.R. §1.68. This section mandates that a declaration is accepted if (1) the declarant understands that they may not make “willful false statements”; and (2) “[t]he declarant must set forth in the body of the declaration that all statements made of the declarant’s own knowledge are true and that all statements made on information and belief are believed to be true.” Here, Dr. Willner clearly set forth that his opinions were truthful, he believed them to be true, and he could and would testify about them. Ex. 2030 ¶ 4. Dr. Willner then did testify about his opinion, under affirmation, at deposition. *See generally* Ex. 1040 (for example, at 36:10–15, Dr. Willner testified under oath that, other than a paragraph he wanted to withdraw, he stood by his opinion in his declaration). Petitioner cites no evidence from his

deposition that Dr. Willner's declaration was not truthful or that he did not understand the prohibition against making false statements. To the extent that there were any defects with Dr. Willner's declaration, his adoption of his declaration under-oath at deposition should resolve any such issues. Ex. 1040 at 7:4–5, 34:9–12, 35:13–36:15.

Petitioner also argues that Dr. Willner's deposition testimony was not credible, citing to evidence of Dr. Willner's refusal to speculate and potentially provide untruthful information. For example, Petitioner takes issue with the fact that Dr. Willner would not speculate under oath about specific information he did not remember with certainty, such as listing every consulting relationship he has had, including the timing of such relationships. The answers cited by Petitioner emphasizes the seriousness with which Dr. Willner took his obligation to testify truthfully, supporting his credibility, not detracted from it. The specific examples called out by Petitioner are misleading. In the testimony starting at 44:22 (Petitioner does not cite the question in its Reply), Petitioner was asking broadly about prior art PONs and Dr. Willner testified truthfully. The fact that, at deposition, Dr. Willner did not remember any prior art alternatives to a splitter is irrelevant both because the Challenged Claims require passive optical splitters and because Dr. Prucnal gave no opinion about alternatives to splitters in the prior art. Petitioner similarly improperly argues that Dr. Willner testified that "he could not recall a single ONT, other than

the Motorola ONT6000GVT.” Reply at 23. In fact, he testified he did remember other ONTs. Ex. 1040 at 137:3–7. What he did not remember was their specific names. *Id.* at 137:8–10. This is not surprising because, again, these are irrelevant questions (Petitioner does not argue that an ONT on the market was invalidating) and Dr. Prucnal does not offer any such opinions either.

Finally, Petitioner argues that Dr. Willner improperly characterized some of his answers as “outside of the context of the ’754” even though Petitioner was asking about the state of the art. Reply at 23-24. It is not clear what concern Petitioner is raising. Regardless of the propriety of the argument, as Dr. Willner explained, he used this phraseology to make clear that his answers to questions that used claim language (or very similar language) were not admissions that any aspects of the claimed invention were in the prior art. Ex. 1040 at 44:12–21. There is nothing wrong with Dr. Willner’s responses.

IX. The Petition Still Has No Theory for Claim [1.D].

The Petition argued that the claimed “electrical network interface port” existed only “functionally” but not literally where “the ingress FIFO and egress FIFO are electrically connected to the CLU” in Shruga. Petition at 31–32. Dr. Prucnal agreed. Ex. 2021 at 114:22–116:22. The Petition corresponded this part of Shruga with the electrical connector at one end of Togami. Petition at 33–34.

Patent Owners argued that there was no way to combine these corresponding

parts. Paper 34 at 49–52. Petitioner’s Reply still has no theory for how Togami’s electrical interface port is supposed to represent the connection between Shraga’s CLU and its FIFO block when the final combination is made. Paper 38 at 20.

X. The Petition Still Has No Theory for Claim 18

Petitioner’s Reply merely gives evidence that the head-end might **populate** a field with a particular identifier. Paper 38 at 21. Petitioner has no evidence about which part of the system **assigned** that particular identifier (e.g., as opposed to just repeating a previously assigned identifier).

XI. Other Various Rebuttals

Petitioner argues that Shraga’s switch 64 could be inside or outside the boundary of an ONT. Paper 38 at 5–6. This is irrelevant and admittedly “inconsequential.” *Id.* at 6. The relevant issue is whether Shraga’s CLU, when implemented in Togami’s SFP, can still control Shraga’s switch. It cannot.

Petitioner raises other switches Dr. Prucnal is personally familiar with. Paper 38 at 6. These are not prior art, not in the petition, and they are irrelevant.

Petitioner’s Reply relies on Ex. 2021, 87:8–88:4 to explain that Petitioner did not propose removing the switch from Shraga (which is only true to the extent the Petition did not articulate **any** concrete theory). Paper 38 at 7. However, in this relied upon-section of the transcript, Dr. Prucnal proposes to Togami “would be carrying out the duties of the CLU” of Shraga, not carrying out “partial” duties or “PON-

specific” duties.

XII. Conclusion

For the same reasons expressed in the POR, the Board should find that Petitioner has not met its burden of showing invalidity of the Challenged Claims. The combination of Shraga and Togami simply does not render the Challenged Claims invalid, as evidenced by the fact that Petitioner had to enter substantial new evidence in support of its Petition. Petitioner’s shifting arguments are ground in improper hindsight and based on the opinion of an expert who opined in litigation that the invention was not enabled at the time of invention. Petitioner provides no explanation for how an invention that was supposedly not enabled could simultaneously be so obvious that a POSITA would have known to make substantial modifications to Shraga to make it work.

Respectfully submitted,

Dated: November 19, 2024

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CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that the word-processing system used to prepare this paper reports that there are 4,691 words in the paper excluding the portions exempted under 37 C.F.R. § 42.24(a)(1).

Dated: November 19, 2024

/ Qi Tong /
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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on November 19, 2024, by filing this document through P-TACTS as well as delivering a copy via electronic mail upon the following attorneys of record for Petitioners:

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