

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

US CONEC LTD.,
Petitioner,

v.

SENKO ADVANCED COMPONENTS, INC.,
Patent Owner.

IPR2024-00116
Patent 11,307,369 B2

Before BARBARA A. PARVIS, ELIZABETH M. ROESEL, and
JOHN A. HUDALLA, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

US Conec Ltd. (“Petitioner”) filed a Petition (“the ’116 Petition”) requesting *inter partes* review of claims 23–40 (“the challenged claims”) of U.S. Patent No. 11,307,369 (Ex. 1001, “the ’369 patent”). Paper 2 (“Pet.”). Senko Advanced Components, Inc. (“Patent Owner”) did not file a preliminary response.

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition and any response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons below, we determine that Petitioner establishes a reasonable likelihood that it would prevail with respect to at least one claim, and we institute an *inter partes* review as to all challenged claims of the ’369 patent.

The following findings of fact and conclusions of law are not final, but are made for the sole purpose of determining whether Petitioner meets the threshold for initiating review. Any final decision will be based on the full trial record, including any response timely filed by Patent Owner. Any arguments not raised by Patent Owner in a timely-filed response may be deemed waived.

II. BACKGROUND

A. *Related Matters*

The parties identify the following district court action involving the ’369 patent: *Senko Advanced Components, Inc. v. US Conec Ltd.*,

No. 1:23-cv-00083 (D. Del.) (filed Jan. 24, 2023). Pet. 109; Paper 5, 2 (Patent Owner’s mandatory notices).¹

Petitioner challenges all claims of the ’369 patent across two concurrent petitions. The petition in IPR2024-00115 challenges claims 1–22, and the ’116 Petition challenges claims 23–40.

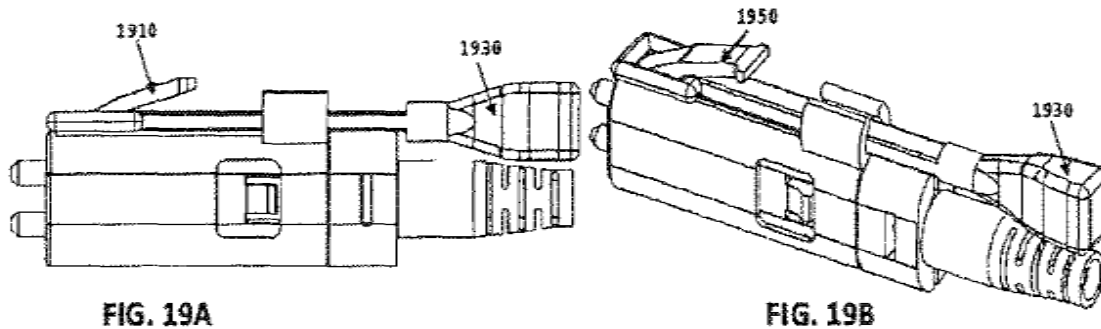
Petitioner filed a notice of ranking petitions for *inter partes* review, explaining the differences between the petitions. Paper 1. In the absence of any opposition from Patent Owner, we institute both petitions for the reasons stated by Petitioner. *Id.*

B. The ’369 Patent

The ’369 patent, titled “Ultra-small Form Factor Optical Connectors Used as Part of a Reconfigurable Outer Housing,” issued April 19, 2022, based on an application filed July 8, 2021. Ex. 1001, codes (45), (54). The ’369 patent lists a series of continuation applications and a series of provisional applications, the earliest which has a filing date of July 14, 2017. *Id.* at codes (60), (63).

¹ Petitioner states that “if instituted, Petitioner stipulates not to pursue in the district court the grounds in the Petition or any ground that reasonably could have been raised in the Petition.” Pet. 102. In view of Petitioner’s stipulation, we do not discretionarily deny institution. Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022), at 3–4, available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to section II.A).

The '369 patent discloses an optical connector holding two or more optical fiber ferrules. Ex. 1001, code (57), 2:42–43. Figures 19A and 19B are reproduced below.



Figures 19A and 19B show an optical connector having push-pull tab 1930 that actuates latch 1910 for inserting and extracting the connector from an adapter or transceiver. *Id.* at 3:46–47, 12:38–44. According to the '369 patent, push-pull tab 1930 is a separable element from a connector housing. *Id.*

C. Illustrative Claim

The '116 Petition challenges claims 23–40 of the '369 patent. Of these, claims 23, 39, and 40 are independent. Claim 23 is reproduced below with Petitioner's claim element designations in brackets.

23. An optical fiber connector comprising:

[23.1] a multi-fiber ferrule configured to terminate a plurality of optical fibers;

[23.2] a connector housing having a front end portion and a rear end portion spaced apart along a longitudinal axis, the connector housing comprising a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis, [23.3] the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical

connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis,

[23.4] a depressible latch above the top portion of the connector housing; and

[23.5] an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;

[23.6] wherein the connector housing comprises a guide connecting the elongate arm to the optical fiber connector.

Ex. 1001, 26:62–27:16.

D. Asserted Challenges

Petitioner, supported by the declaration of James F. Brennan III, Ph.D. (Ex. 1012), asserts the following challenges to unpatentability (Pet. 19):²

Claims Challenged	35 U.S.C. §	References/Basis
23–26, 40	102(a)(1)	Nguyen ³
27–39	103	Nguyen, Lin ⁴
23–36, 39, 40	103	Scherer, ⁵ Lin
37, 38	103	Scherer, Lee, Gniadek ⁶

² The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. The earliest possible effective filing date of the ’369 patent is after this date. *See* Ex. 1001, code (60). Thus, AIA statutes apply to the claims of the ’369 patent.

³ Ex. 1009, US 2016/0238796 A1, published August 18, 2016 (“Nguyen”).

⁴ Ex. 1005, US 2017/0227720 A1, published August 10, 2017 (“Lin”).

⁵ Ex. 1003, WO 2015/027033 A1, published February 26, 2015 (“Scherer”).

⁶ Ex. 1010, US 8,465,317 B2, published June 18, 2013 (“Gniadek”).

III. ANALYSIS

A. *Legal Standard*

A patent claim is unpatentable under 35 U.S.C. § 103 “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103 (2018). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.⁷ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. *Level of Ordinary Skill in the Art*

Petitioner contends that a person of ordinary skill in the art (“POSITA”)

would have been a person having: (1) at least a bachelor’s degree in mechanical engineering, electrical engineering, physics, or a related field and three years of experience in fiber optics and fiber optic connectors; (2) a master’s degree in mechanical engineering, electrical engineering, physics, or a related field and at least one year of experience in fiber optics and fiber optic connectors; or (3) industry experience (at least three years) designing fiber optic connectors in lieu of a formal degree.

Pet. 3–4 (citing Ex. 1011 ¶¶ 40–46).

For purposes of this Decision, we adopt Petitioner’s proposal as reasonable and consistent with the ’369 patent specification and the prior art.

⁷ The present record does not include any objective evidence of nonobviousness.

C. Claim Construction

In an *inter partes* review, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. “The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner asserts that the “Petition affords all terms their ordinary and customary meaning.” Pet. 4. For purposes of this Decision, no claim terms require express construction.

D. Petitioner’s First Challenge: Nguyen

Petitioner contends that Nguyen anticipates claims 23–26 and 40. Pet. 19–34 (citing Ex. 1012 ¶¶ 129–206). We begin with an overview of Nguyen.

1. Nguyen (Ex. 1009)

Nguyen discloses fiber optic connectors with a spring push and a push-pull tab. Ex. 1009, codes (54), (57), ¶ 2. Figure 6 is reproduced below.

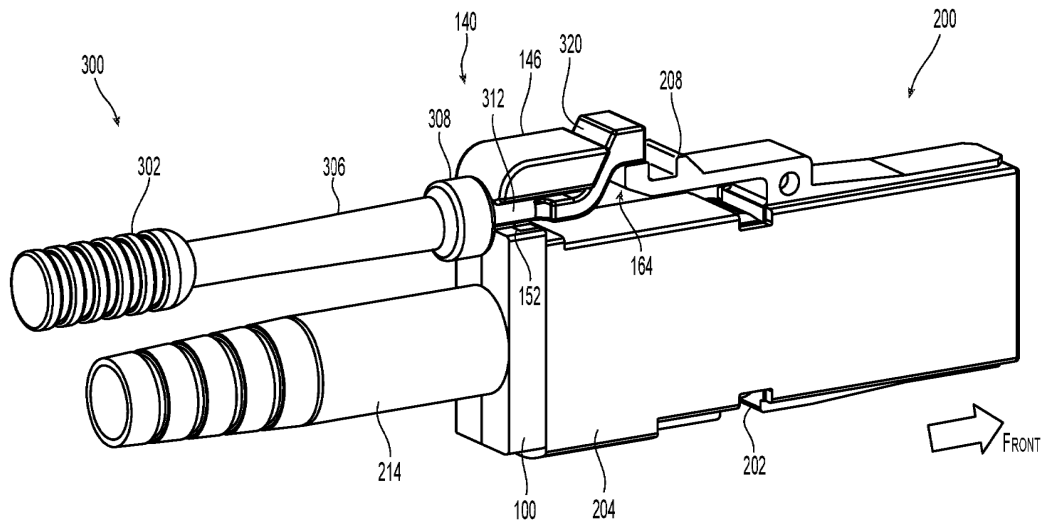
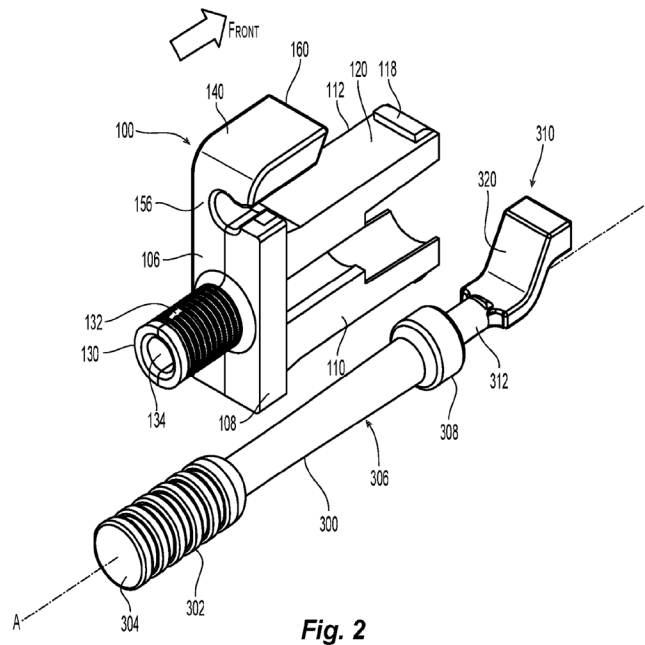


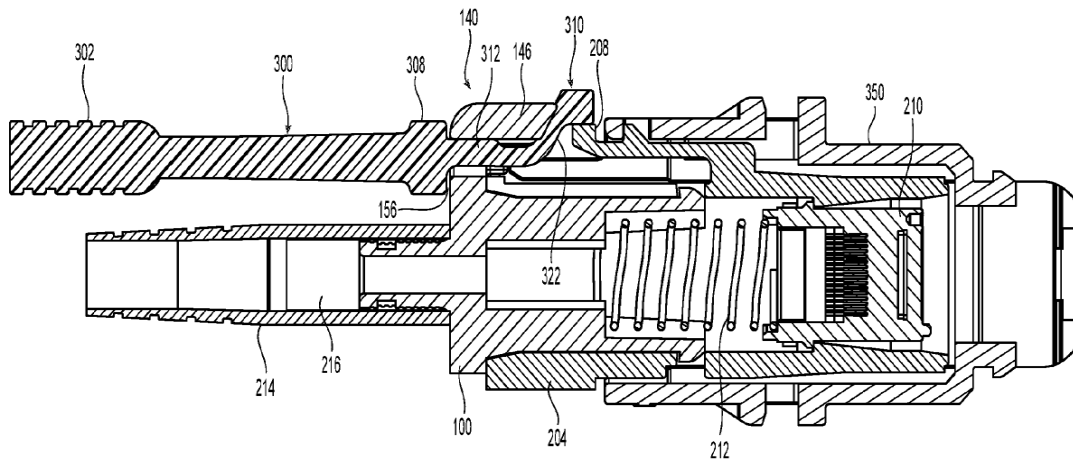
Fig. 6

Nguyen Figure 6 shows fiber optic connector 200, including spring push 100 having engagement member 140, connector housing 204 having latch 208, handle 300, and boot 214. Ex. 1009 ¶¶ 14, 23, 24, 30, 31, 33. Handle 300 is received in slot 150⁸ of engagement member 140. *Id.* ¶ 27, Fig. 4. The spring push and handle are shown in a disassembled state in Figure 2, reproduced below.

⁸ Slot 150 is not labeled in Figure 6, but Nguyen discloses that slot 150 has portion 152, which is labeled in Figure 6. Ex. 1009 ¶ 27.



Nguyen Figure 2 shows spring push 100 and handle 300. Ex. 1009 ¶¶ 10, 23, 27. Spring push 100 has crimp portion 130 for attaching a fiber optic cable boot. *Id.* ¶¶ 25, 33, Figs. 3–6, 8, 10. Figure 10 is reproduced below.



Nguyen Figure 10 is a cross-sectional view of a fiber optic connector. Ex. 1009 ¶¶ 18, 30. Figure 10 shows spring push 100, handle 300,

adapter 350, connector housing 204, latch 208, ferrule 210, spring 212, and boot 214. *Id.* ¶¶ 31, 33. Nguyen discloses that latch 208 secures connector housing 204 into adapter 350 to keep fiber optic connector 200 from being inadvertently removed from the adapter. *Id.* ¶ 30. Handle 300 has distal end 310, which rests on latch 208. *Id.* ¶ 32. The operation of handle 300 is illustrated in Figure 12 reproduced below.

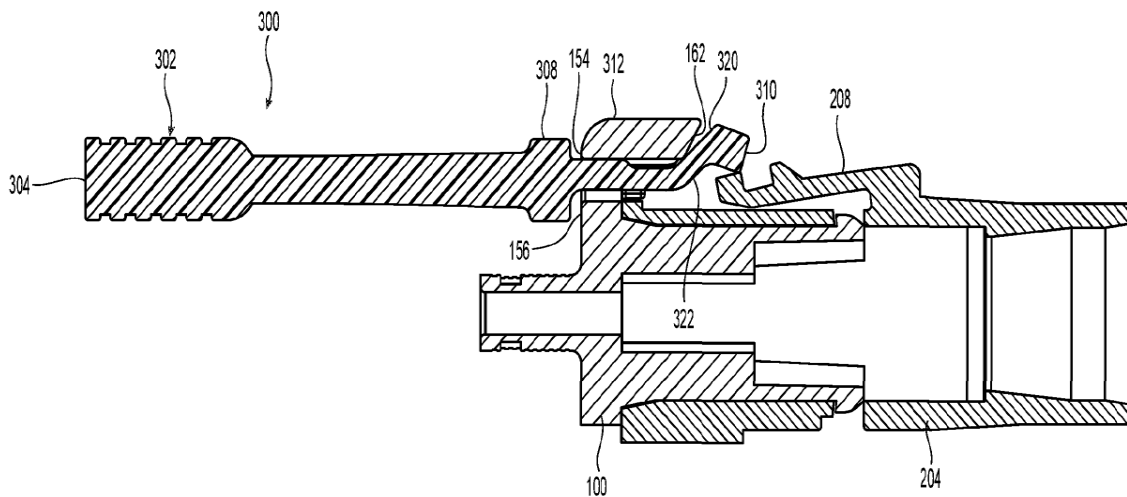


Fig. 12

Nguyen Figure 12 is a cross-sectional view of a fiber optic connector and shows handle 300, spring push 100 having engagement member 140 (not labeled in Figure 12), and connector housing 204 having latch 208.

Ex. 1009 ¶¶ 20, 32. Nguyen describes the operation of handle 300 as follows:

When an operator wants to remove a fiber optic connector with the spring push 100 and handle 300, the operator grasps the grasping portion 302 of the handle 300 at a first or proximal end 304 and pulls rearwardly (to the left in FIG. 9 [*sic*, 10]), and the handle 300 moves slightly rearwardly relative to the spring push 100 and engagement number [*sic*, member] 140. As a result, the top surface 320 engages the terminal surface 162 of

the distal end 160 of second portion 146 [of engagement member 140, *see* Figures 2 and 10], which forces the distal end 320 [*sic*, 310] of the handle 300 to move downward toward the spring push 100 and simultaneously on the latch 208. See FIG. 12. The movement of the latch 208 from the distal end 320 [*sic*, 310] is sufficient to allow the fiber optic connector 200 to be removed from the adapter with the handle 300. The distal end 310 is configured so that it cannot flex enough so that the top surface 320 disengages from the terminal surface 162 of the second portion 146. Thus, the distal end 310 engages the second portion 146 with enough force to allow the operator to remove the fiber optic connector from the adapter.

Ex. 1009 ¶ 32 (bracketed addition and corrections are added).

2. *Claim 23*

a. *Preamble*

The claim 23 preamble recites: “an optical fiber connector.”

Ex. 1001, 26:62. Petitioner contends that Nguyen discloses the preamble, asserting that Nguyen discloses fiber optic connector 200. Pet. 20 (citing Ex. 1009 ¶ 33, Fig. 8).

We find that Petitioner’s contention for the claim 23 preamble is adequate for purposes of institution.

b. *Claim Element 23.1*

Claim element 23.1 recites: “a multi-fiber ferrule configured to terminate a plurality of optical fibers.” Ex. 1001, 26:63–64.

Petitioner contends that a POSITA would have recognized Nguyen’s ferrule 210 as depicted in Figure 10 as a multi-fiber ferrule configured to terminate a plurality of optical fibers. Pet. 21–22 (citing Ex. 1009 ¶¶ 3, 26, Figs. 2, 10; Ex. 1012 ¶¶ 138–141).

We find that Petitioner’s contention for claim element 23.1 is adequate for purposes of institution.

c. Claim Element 23.2

Claim element 23.2 recites: “a connector housing having a front end portion and a rear end portion spaced apart along a longitudinal axis, the connector housing comprising a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis.”

Ex. 1001, 26:65–27:2.

Petitioner contends that Nguyen’s housing 204 and spring push 100 coupled together form a “connector housing,” as recited in claim element 23.2. Pet. 22–24 (citing Ex. 1009 ¶ 24, Figs. 6, 8–10). Petitioner provides an annotated version of Nguyen Figure 10 identifying front and rear end portions, top and bottom portions, and longitudinal and transverse axes. Pet. 23.

We find that Petitioner’s contentions for claim element 23.2 are adequate for purposes of institution.

d. Claim Element 23.3

Claim element 23.3 recites: “the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis.” Ex. 1001, 27:2–8.

Petitioner contends that the front end portion of Nguyen’s housing 204 is open, exposing multi-fiber ferrule 210 through the front end portion. Pet. 24 (citing Ex. 1009, Fig. 10). Petitioner contends that, in Nguyen Figure 10, the unlabeled features of ferrule 210 are multiple optical fibers spaced apart in a row that extends parallel to the transverse axis. Pet. 25 (citing Ex. 1012 ¶¶ 151–158).

We find that Petitioner’s contentions for claim element 23.3 are adequate for purposes of institution.

e. Claim Element 23.4

Claim element 23.4 recites: “a depressible latch above the top portion of the connector housing.” Ex. 1001, 27:9–10.

Petitioner contends that Nguyen’s latch 208 is a depressible latch located above the top portion of the connector housing formed collectively by spring push 100 and housing 204. Pet. 25–26 (citing Ex. 1009 ¶ 30, Figs. 10, 12).

We find that Petitioner’s contention for claim element 23.4 is adequate for purposes of institution.

f. Claim Element 23.5

Claim element 23.5 recites: “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch.” Ex. 1001, 27:11–13.

Petitioner contends that an elongate arm provided by part of Nguyen’s handle 300, which is received in slot 150 and connected to the connector housing provided collectively by spring push 100 and housing 204. Pet. 26 (citing Ex. 1009 ¶ 27, Fig. 10). Petitioner contends that Nguyen’s handle 300 is above the top portion of the connector housing and configured to be pulled to actuate latch 208. Pet. 26–27 (citing Ex. 1009 ¶¶ 27, 32, Figs. 10–12).

We find that Petitioner’s contentions for claim element 23.5 are adequate for purposes of institution.

g. Claim Element 23.6

Claim element 23.6 recites: “wherein the connector housing comprises a guide connecting the elongate arm to the optical fiber connector.” Ex. 1001, 27:14–15.

Petitioner contends that the portion of Nguyen’s spring push 100 that defines slot 150 is a guide for handle 300 and connects handle 300 to optical fiber connector 200. Pet. 28–29 (citing Ex. 1008 ¶ 27, Figs. 4, 10).

We find that Petitioner’s contention for claim element 23.6 is adequate for purposes of institution.

h. Conclusion for Claim 23

We determine that Petitioner establishes a reasonable likelihood of prevailing on its challenge to claim 23 as anticipated by Nguyen.

3. Claims 24–26 and 40

Petitioner contends that Nguyen anticipates claims 24–26 and 40. Pet. 30–34. In view of our preliminary determination for claim 23 and the lack of a Patent Owner preliminary response, we decline at this stage to provide an element-by-element analysis for claims 24–26 and 40.

E. Petitioner’s Remaining Challenges

Petitioner contends that claims 27–39 would have been obvious in view of Nguyen and Lin. Pet. 35–63. Petitioner contends that claims 23–36, 39, and 40 would have been obvious in view of Scherer and Lin. Pet. 64–99. Petitioner contends that claims 37 and 38 would have been obvious in view of Scherer, Lin, and Gniadek. Pet. 99–106. In view of our preliminary determination for claim 23 and the lack of a Patent Owner preliminary response, we decline at this stage to provide additional analysis for these challenges.

IV. CONCLUSION

For the reasons above, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim of the '369 patent. At this stage, we have not made a final determination with respect to the patentability of the challenged claims.

V. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 22–40 of the '369 patent is hereby instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this Decision.

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